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PROCESSOR
Products, News & Information Data Centers Can Trust. Since 1979

A Unique Cooling Solution

Data Aire Offers SMEs Custom-Designed Cooling Options

by Don Reisinger

• • •

ONE OF THE MAJOR concerns for any data center manager is keeping the data center cool. And while some managers prefer large cooling organizations that specialize in a variety of cooling solutions, others look for overall customer value. Data Aire provides value by specializing in cooling data centers—nothing else.

Called CRAC (computer room air conditioning) units, Data Aire's specialty is using ceiling-, floor-, and wall-mounted units with water/glycol and chilled water-cooling in split or packaged configurations to maintain the perfect temperature for any data center.

According to John Martin, marketing manager for Data Aire, the company's "DX units range in size from 1 to 30 tons of cooling, and our chilled water units range from 1 to 50 tons of cooling. We also manufacture our own heat-rejection units, either indoor or outdoor." Even better, Data Aire's cooling solutions can directly communicate with any major building management system, but if Data Aire monitoring requests are made, the company will perform those duties, as well.

Customized Equipment

Besides a dedicated data center cooling business, Data Aire is unique because, as Jeff Trower, the company's general sales manager, notes, "Data Aire is able and willing to customize our equipment to meet our customers' unique and specific needs."

Because Data Aire manufactures all of its equipment at its headquarters in Orange Country, Calif., the company has no issues in fulfilling custom orders to fit the needs of the customer. As Martin explains, "If our customers require something special, it is not a problem. Whether they need a unit to be split in the field to accommodate tight spaces or relocation of piping or electrical components, we can accommodate their requests. Since we've been in business so long, our staff has experienced a wide

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Evolving Mobile Security Threats

What Strategies Can Help Protect Your SME?

by Robyn Weisman

• • •

NETWORK SECURITY has been a bane of IT managers since the days of punch cards, but the constant onslaught of new technologies makes deploying and maintaining appropriate security measures the equivalent of running a marathon at a sprinter's speed.

The latest bytes of evil are being targeted at the mobile device world. According to SMobile Systems' Threat Center, currently 400 mobile viruses are active, with that number expected to increase to about 1,000 by the end of this year. Neil Book, president of SMobile, points out that there are already 2 billion mobile devices floating around the world and that this number will grow far more quickly than it will for traditional PCs. It only makes sense that malefactors would migrate over to the mobile space.

The latest bytes of evil are being targeted at the mobile device world.

Already mobile malware has evolved from annoying text message spam to snoopware that enables the hacker to listen in on conversations, install spyware that allows him to access phone logs and contacts, and send text messages and multimedia spam to other devices.

However, the most frightening aspect about mobile malware is its potential to use an infected smartphone or other device as a proxy or gateway into an organization's core network, says Book's colleague, SMobile CTO George Tuvell. By hijacking a handheld device, hackers can breeze past a traditional firewall and make their way onto a company's mail server, customer database, CRM tools, and other critical parts of the network. And this damage may result from something simple, such as an employee receiving a message to download a free game or antivirus update.

Putting aside social engineering, which has been arguably the biggest problem in any organization since the Stone Age, what can a humble IT administrator or data center manager do to repel the latest and perhaps most dangerous onslaught yet from his or her network?

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Companies To Watch

We profile five companies with interesting products and technologies worthy of your attention.

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The most frightening aspect about mobile malware is its potential to use an infected smartphone or other device as a proxy or gateway into an organization's core network.

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According to many industry watchers, iPhone usage is already impacting network and enterprise application performance.

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A recent study conducted by King Research on behalf of KACE found that the majority of systems management professionals rely heavily on online communities to help them solve IT problems. We highlight a few of the best sites.

Environmental Concerns | 26

A growing number of businesses are now considering specific green efforts in the design and operation of buildings and equipment.

Product Releases | 16

■ **APTARE** released APTARE StorageConsole Platform 6.5, which offers storage capacity management reporting to enterprises. ■ **Aten** released three new models in its KVM Extender line: the CE250A PS/2 KVM Extender, CE800 USB KVM Extender, and ALTUSEN KE0220 Audio/KVM Extender. ■ **Fortinet** released the FortiGate-60B and the FortiWifi-60B, security appliances for UTM. ■ **Fujitsu Computer Systems** launched its PRIMERGY TX120, a low-power, energy-efficient tower server aimed at small to medium-sized businesses that don't have a dedicated server room. ■ **KACE** announced an integrated appliance for managing both virtual and physical environments. ■ **Net Optics** released a new family of Link Aggregator products to reach a higher level of visibility for monitoring network performance and security threats. ■ **Panduit** unveiled the PanView Local Scanner, a 1U tool designed to monitor and manage the physical connectivity information of a remote network. ■ Businesses looking for turnkey SIP IP PBX devices for the enterprise should look to a new line of appliances from **Pingtel**. ■ **Staco Energy Products** announced the TreStar P line of three-phase UPSes.

EACH WEEK

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1. **What is the size of your company (how many employees)?**
   - ☐ Less than 10
   - ☐ 10 to 99
   - ☐ 100 to 199
   - ☐ 200 to 499
   - ☐ 500 to 999
   - ☐ 1,000+

2. **How often do you purchase computer hardware/software?**
   - ☐ Weekly
   - ☐ Bi-weekly
   - ☐ Monthly
   - ☐ Quarterly
   - ☐ Annually
   - ☐ No Involvement

3. **What is your annual computer hardware/ software purchasing budget?**
   - ☐ $0 to $9,999
   - ☐ $10,000 to $24,999
   - ☐ $25,000 to $49,999
   - ☐ $50,000 to $99,999
   - ☐ $100,000 to $249,999
   - ☐ $250,000 to $499,999
   - ☐ $500,000 to $999,000
   - ☐ $1,000,000+

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PHYSICAL INFRASTRUCTURE — SEPTEMBER 14, 2007

Power, Control & Monitor Your Data Center

Data Watch's Power Watch & Enviro Watch Work Together To Meet Your Needs

WHEN YOU'RE IN charge of a data center, the more help you can get monitoring systems and other data center conditions, the better. Data Watch's Power Watch and Enviro Watch products are ideal for just such situations.

The Power Watch product line (pictured) was designed to meet the growing need for rack-level power. Both horizontal and vertical models feature up to 60 amps, and dual-cord models can provide redundant power in a single PDU. With dual-cord models, each input cord provides source power to a separate circuit. For dual-corded servers, plug one cord into a receptacle in the "A" bank and one into the "B" bank and achieve redundancy in one PDU. The receptacle bank of each circuit is color coded for simple identification.

Power Watch's programmable current meter provides a local display and alarm for both amperage and voltage for individual circuits and the total. Simple push-button navigation and programming make the meter user-friendly, and RS-232 connectivity allows for remote access to meter readings and setting/receiving alarms.

Connect Power Watch remote PDUs to the Enviro Watch network appliance for desktop monitoring, email alerts, data logging, and graphing. Enviro Watch provides remote monitoring and administration to Power Watch PDUs and can monitor data center temperature and humidity.

Enviro Watch's multifunctional RJ-45 ports allow connection of Power Watch PDUs, temperature-only sensors, or temperature/humidity sensors.

Each unit ships with Enviro Watch software, which provides an intuitive interface for monitoring, administering, logging, graphing, and reporting features. Once a preassigned threshold is met, alerts can be sent via SNMP or email to different recipients based on the severity of the alert.

Data Watch
Power Watch & Enviro Watch

Power Watch PDUs provide up to 60 amps with dual-cord versions available; bundle with the Enviro Watch appliance to monitor the PDUs and data center environmental conditions

(866) 325-1121

www.data-watch.com

SERVERS — SEPTEMBER 7, 2007

Reduce IT Complexity

IBM System i Combines OSes, Database, Security & Storage Into A Single Integrated System

THE IBM SYSTEM I FAMILY lets you integrate, extend, and grow your business applications like never before by integrating a variety of OSes. You choose and run the best mix of applications for your business and centrally manage them.

Innovative integration. Instead of supporting and maintaining multiple disparate servers, often one for each application running on Windows, you can simply integrate operations, networking, and server management of a System i, BladeCenter, and System x environment.

Centralized, graphical server management. The System i Navigator provides a GUI for managing the System i and attached BladeCenter and System x servers. Navigator for Wireless lets you view server status and start/stop servers from a Web-enabled cell phone, PDA, or Web browser.

Synchronized security. i5/OS and Windows Server user IDs and passwords can be centrally managed.

Simplified storage management. With System i, there is a single pool of virtual storage that Windows may share. Virtual disks are allocated in i5/OS to each System x or blade server, yet all physical disk capacity and drive utilization is automatically managed by the System i.

Consolidated backup. With the integrated System i environment, all data and files are centralized in virtual storage and a single process can back up i5/OS and Windows data to a high-speed System i tape device.

Flexible server deployment. System i storage virtualization provides innovative options for enhancing the reliability and recoverability of your Windows servers. If a physical server fails, you can quickly and easily switch the server's storage to a hot spare System x or blade server.

Streamlined communications. System x and BladeCenter servers can communicate over System i virtual Ethernet network connections. Network traffic travels within the System i infrastructure and less across client networks.

IBM System i Integration with BladeCenter and System x

Lets businesses operate heterogeneous environments that include Intel-compatible servers running Microsoft Windows or Linux applications in addition to core business applications on i5/OS

(877) 426-2223

www.ibm.com/systems/i/systemx

NETWORKING & VPN — AUGUST 24, 2007

Concerned About Application Performance, Network Authentication & Guest Access?

A10 Networks IDaccess & AX Series Provide Industry's Best Price/Performance

TWO NEW PRODUCTS from A10 Networks are designed to provide reliable, cost-effective options for enterprises looking to accelerate and secure their applications.

IDaccess: Authentication & Guest Access

IDaccess is a family of purpose-built, security-hardened 1U appliances that integrate RADIUS, DHCP, Guest Access, and A10's unique IP-to-ID Service. The appliances provide the industry's most cost-effective, integrated network authentication and guest network access solution in their class.

The IDaccess appliances support comprehensive authentication methods and an array of back-end servers. By combining authenticated DHCP with a guest access portal, network administrators have a powerful and flexible network management tool to support all network and guest authentication needs.

IDaccess eases the burden on IT administrators by centralizing authentication for guests and employees, while ensuring guests can only access the resources they need.

Guest Access. Provides a user-friendly and intuitive interface that lets front desk personnel create and manage guest accounts. IDaccess supports authentication for both internal users and guests in a single appliance, eliminating the need to manage multiple devices.

The A10 Networks AX Series accelerates applications, now with models for enterprises and data centers of all sizes.

IDaccess eases the burden on IT administrators by centralizing authentication for both guests and employees.

RADIUS Server. Provides authentication services and supports the latest RADIUS protocols for wireless, wired, remote access, and perimeter security applications.

IP-to-ID. Helps isolate security issues faster and improve compliance reporting by providing instant user identification for any IP or MAC address. Enables tracing of events to individuals employees.

Authenticated DHCP. Provides isolation of unauthorized users and redirects them to authenticate. This allows companies to enforce all users to authenticate without taking the effort to roll out labor-intensive technologies such as 802.1x or network access control.

Reporting. Enhance auditing and long-term record retention with rich identity-based reports, logs, and alerts for all authentication functions.

AX Series: Next-Generation Server Load Balancer

A10 Networks' AX Series is the industry's best price/performance application acceleration switch, helping enterprises maximize application availability through a high-performance and scalable application delivery platform.

The AX's ACOS (Advanced Core Operating System) architecture has garnered the company numerous awards and is revolutionary by market standards because of its native multisystems support, which includes an optimized multi-CPU architecture built from the ground up designed for performance, scalability, and reliability.

The AX's ACOS architecture scales performance across multiple decoupled CPUs and specialized programmable ASICs linearly to ensure maximum scalable performance, including when all of the features are turned on. The AX Series' aRule Advanced Scripting technology provides ultimate policy creation flexibility to deliver rich traffic inspection and switching capabilities, helping organizations adapt to ever-changing conditions and application types.

The two newest AX Series appliances, 2000 and 2100, are 2U appliances designed for enterprise data centers and server farms. The AX 2000 has two CPUs, 2GB of memory, eight Gigabit over copper ports, two G small-form factor pluggable fiber ports, and an 80GB hard drive. The AX 2100 has those same components, plus an additional two CPUs and two G small-form factor pluggable fiber ports; the 2100 also has dual 80GB RAID 1 hard drives.

All AX models feature carrier-grade hardware components, the industry's best SSL acceleration and L4-7 acceleration, support for IPv4 and IPv6, and an industry-standard command-line interface and easy-to-use GUI.

Key benefits:

- Improves user application response times
- Tuned for multiple CPUs with multiple cores
- Provides Five 9s reliability for accelerated applications
- Scales server farm capacity with advanced server load balancing
- aRule scripting language future-proofs against changing business requirements
- Provides best price/performance per watt in a compact 2U form factor

A10 Networks IDaccess & AX Series

The AX Series is the industry's best price/performance application acceleration switch; IDaccess is a family of integrated network authentication and guest access appliances

(888) 210-6363

www.A10networks.com/processor

MarketPlace NEWS

Expect Vista SP1 In Q1 2008

Microsoft officially announced that Service Pack 1 for Windows Vista will be available during the first quarter of next year and will go to beta testers next month. At this point, Vista SP1 isn't expected to include any new features, but rather it will include the 20 updates already available for the new OS, along with several new updates currently unavailable. Microsoft also announced it will release the third and final Service Pack for Windows XP during the first half of next year and that Windows Server 2008 will be released to manufacturing during the first quarter of next year.

AT&T Laptop Stolen

On July 27, an employee of a professional services company working for AT&T had a laptop that contained unencrypted personal information for former and current AT&T employees stolen from his or her vehicle. Those affected were only employees of the former AT&T Corp. before SBC Communications purchased it in 2005 and it became AT&T Inc. The laptop's contents included information about the benefits plan for AT&T Corp., and a spokesperson for AT&T said the data on the laptop had not been stored in a manner consistent with company policy. AT&T started telling the affected employees on Aug. 20 and has offered them free credit monitoring services for a year.

Google CFO To Retire

George Reyes, Google's CFO, plans to retire by the end of this year. Reyes will stay at Google until the company finds a new CFO and plans to help the company find his replacement. Reyes has been with Google for more than five years and was a key player in its initial public offering in 2004. Before joining Google, Reyes was interim CFO of an optical networking company and worked in various positions at Sun Microsystems. In a statement announcing his departure, Reyes said, "I know I'm leaving the company in good hands with a remarkable team of professionals."

EarthLink Cuts Jobs

In an effort to restructure and cut costs, EarthLink will eliminate about 900 jobs and close its offices in Harrisburg, Pa.; Knoxville, Tenn.; San Francisco; and Orlando. It will also scale down its Atlanta headquarters and its Pasadena, Calif., office. EarthLink will pay $60 million to $70 million related to the move, with the majority of those charges in Q3 and Q4. It also lowered its yearly revenue expectations from a range of $1.23 billion to $1.24 billion down to $1.19 billion to $1.21 billion. The company's board of directors approved a share buyback totaling $200 million, which sent its shares up 10%.

Dell Profit Up

Dell had an operating income of $896 million during the second quarter of fiscal 2008 and revenues of $14.8 billion, or about 32 cents per share. CEO Michael Dell says the company is still in the process of making changes to lower operating costs. During the quarter, Dell made several significant announcements, including plans to distribute systems in Wal-Mart and acquisitions of ASAP Software, SilverBack Technologies, and Zing Systems. Dell recently announced it would restate earnings for the past fiscal 2003 through the first quarter of 2007; the NASDAQ has given Dell until Nov. 2 to file its past-due economic reports.

Yahoo! Makes Management Changes

Changes at Yahoo! continue as Susan Decker works to complete the reorganization of the company's management in her role as president. The newest change will combine Yahoo!'s sales operations with its publisher network, corporate partnerships, and HotJobs, creating a "global partnership solutions" division. The new division will be headed up by Hilary Schneider. Gregory Coleman, Yahoo!'s top sales executive, will be leaving the company in February after he assists with the transition. He will be the second senior sales executive to leave the company since June, which is when Wenda Harris Millard left.

Sony Ericsson CEO Steps Down

Miles Flint, the current chief executive at Sony Ericsson Mobile Communications AB, has announced plans to resign his position to pursue new business and personal ventures. He has been CEO at the company since June 2004 and has been an employee of Sony for almost 17 years. Through the end of the year, Flint will remain an executive advisor to his successor, Hideki Komiyama, who will be taking over the CEO position Nov. 1. Komiyama is currently Sony's executive vice president of electronics marketing and sales strategies and serves as a chairman of the board of Sony Electronics.

Microsoft To Purchase Parlano

Microsoft recently revealed plans to acquire Chicago-based enterprise group chat software provider Parlano. The deal is expected to close in the fourth quarter, and no financial details were released. It is expected that Parlano's 50 employees will be relocated to Microsoft headquarters in Redmond, Wash. Parlano is the maker of MindAlign, a group chat application, which enables users to maintain an IM conversation over time. MindAlign is currently built to run on Office Communications Server 2007, and Microsoft plans to integrate MindAlign's functionality into Office Communications Server and Office Communicator.

Oracle Buys Ireland Network Firm

Oracle announced its plans to purchase Netsure Telecom Limited. Netsure provides network intelligence, analytics, and data integrity software for service providers. Vodafone, Cable & Wireless, and other major network operators use the company's software. An Oracle senior vice president says the company plans to use the Netsure buy to help Oracle customers improve network utilization, optimize capacity planning, and streamline network life cycle management. Netsure will become part of Oracle's Communications Global Business Unit. Financial details weren't released; the deal is expected to close later this month.

EMC Acquires BusinessEdge Solutions

The recent acquisition of BusinessEdge Solutions by EMC marks the fourth solution provider acquisition by the company in less than two years. BusinessEdge is a privately held business and technology consulting firm out of Brunswick, N.J. Financial details of the deal were not released. Although EMC plans to continue its hardware focus, services currently account for about 16% of its revenue. Wall Street predictions have estimated that revenue from EMC services will reach $12.7 billion this year. BusinessEdge Solutions will fit in with the part of EMC's services lineup that provides consulting and solutions integration independent of a product sale.

Yahoo! Files Defense In China Suit

Yahoo! recently filed a 51-page defense in response to a lawsuit filed by the World Organization for Human Rights USA in U.S. District Court for the Northern District of California last April. The lawsuit alleges that Yahoo!'s Hong Kong subsidiary provided information to Chinese authorities that led to the persecution, torture, and imprisonment of four Chinese dissidents. Yahoo! has asked the court to dismiss the suit. Yahoo!'s claims include that the U.S. court system does not have jurisdiction over its Hong Kong subsidiary and that Yahoo! has no control over laws passed in the People's Republic of China or how those laws are enforced.

Seagate Denies Chinese Buyout

Last month, a *New York Times* article that contained an interview with Seagate Technology CEO William Watkins suggested that a Chinese technology company had hinted at wanting to purchase the world's largest disk drive maker. The possibility of a buyout could cause concern for some U.S. government agencies over national security and competitiveness issues. However, Seagate said in response that Watkins was generically referring to firms in China, Korea, and Japan being more interested in disk drive technology than in the past, and no Chinese firm had offered to buy the company, nor does it have any plans to sell.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 16 major companies in the technology market.

Company	Symbol	Year Ago	August 28 $	Sept 5 $	% change from previous week
Avaya	AV	$10.95	$16.57	$16.80	▲ 1.39%
BEA Systems	BEAS	$14.34	$11.79	$12.51	▲ 6.11%
Computer Associates	CA	$23.33	$24.47	$25.42	▲ 3.88%
Cisco Systems	CSCO	$21.96	$30.41	$32.22	▲ 5.95%
Dell	DELL	$21.19	$26.89	$28.30	▲ 5.24%
Electronic Data Systems	EDS	$24.12	$22.70	$22.31	▼ 1.72%
Google	GOOG	$384.09	$506.40	$527.80	▲ 4.23%
HP	HPQ	$36.36	$46.93	$50.10	▲ 6.75%
IBM	IBM	$80.93	$112	$117.88	▲ 5.25%
Intel	INTC	$19.40	$23.96	$25.99	▲ 8.47%
McAfee	MFE	$22.68	$33.48	$37.86	▲ 13.08%
Microsoft	MSFT	$25.91	$27.93	$28.48	▲ 1.97%
Oracle	ORCL	$16.29	$19.36	$20.73	▲ 7.08%
Red Hat Software	RHT	$22.15	$18.67	$19.56	▲ 4.77%
Sun Microsystems	SUNW	$4.99	$5.06	$5.37	▲ 6.13%
Symantec	SYMC	$19.06	$18.26	$18.80	▲ 2.96%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Upcoming IT Events

- SEPTEMBER -

Data Center World Fall 2007
September 16-19
Dallas, Texas
www.datacenterworld.com

Gartner Business Process Management Summit
September 17-19
Orlando, Fla.
www.gartner.com/it/page.jsp?id=501307&tab=overview

Intel Developer Forum
September 18-20
San Francisco, Calif.
www.intel.com/idf

Gartner Open Source Summit
September 19-21
Las Vegas, Nev.
www.gartner.com/it/page.jsp?id=502444&tab=overview

Government Technology Conference East 2007
September 24-27
Albany, N.Y.
www.govtech.com/events/silo.php?id=122172

- OCTOBER -

Gartner Symposium/ITxpo
October 7-12
Orlando, Fla.
www.gartner.com

Business Intelligence 2.0 Conference
October 16-18
San Diego, Calif.
www.sharedinsights.com/events/conferences

ITEC Chicago
October 17-18
Schaumburg, Ill.
www.goitec.com

Technology + Learning Conference
October 17-19
Nashville, Tenn.
www.nsba.org

Interop
October 22-26
New York, N.Y.
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Data Center Decisions
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SIX QUICK TIPS

Boost Your Network Knowledge With These Tips For Better Efficiency & Performance

by Christian Perry

• • •

THE COMPLEXITY of today's networks is reaching monumental proportions, leading managers scurrying for any bits of information that can provide a potential boost in performance or increase in efficiency. We've consulted some of the brightest network professionals in the field to deliver valuable tips that can help improve the overall effectiveness of a data center's network.

Protocol Vision

Charles Thompson, manager of sales engineering at Network Instruments (www.networkinstruments.com), says that enterprises can improve network visibility by leveraging traffic and device reporting protocols, including SNMP, NetFlow, sFlow, and WMI (Windows Management Instrumentation). When network engineers lack time and resources, they can overlook tapping into these traffic and infrastructure reporting protocols embedded into switches, routers, and other network devices.

"NetFlow, for example, is implemented in a router's or switch's software and collects data on all routed IP traffic traversing the device," Thompson says. "From these statistics, the engineer can see which stations are generating the most traffic, applications running on the network by protocol and port number, Internet connections, and QoS statistics."

Thompson notes that most analysis vendors offer products capable of collecting and trending on statistics such as SNMP, NetFlow, and WMI. With NetFlow and sFlow, network traffic information is sent by the router or switch as a datagram to the collector. SNMP and WMI, on the other hand, are "pull" technologies that the collector receives upon sending a request to the specific network device.

Monitoring Mission

If you're not monitoring the applications in your network, you're asking for major trouble. Russell Dietz, CTO and vice president of Hifn (www.hifn.com), an information security company, says that larger enterprises mandate monitoring due to the business case process required to implement large-budget infrastructure upgrades. However, those same processes aren't the norm in smaller enterprises, and as a result, network managers don't place a priority on monitoring the impact of applications on the network.

"Most applications in IT today put large demands on the network infrastructure," Dietz says. "The applications also only perform as advertised when specific network design requirements have been met. Lack of network monitoring creates major surprises during application roll-out and has a huge impact on unplanned expenses relating to post-deployment upgrades just to meet the mission objectives for new enterprise applications."

Dietz notes that most traditional network infrastructure devices include basic traffic monitoring features, but not all applications can effectively collect the data for use with impact analysis. However, once the right application is identified, network managers can get in motion with good monitoring implementations.

Improve Uptime

Uptime is a primary goal for any network manager, but harnessing a focused approach to realize constant uptime can prove difficult for managers who find themselves constantly pulled in multiple directions. Jay Hunter, senior network engineer for the National Education Association, suggests using a four-pronged attack to avoid downtime.

The first part of this attack involves targeting and eliminating improperly configured and maintained software. "To combat this, make sure the people who do the design—and install—have performed the work before. They need to be able to tell you the best practices for that software and when to use exceptions to the best practices."

Hunter also recommends that network managers implement a well-known and reliable antivirus package and, harkening back to the first step, ensure that the package is properly configured and maintained. The network also should be scoured for previously unknown security weaknesses, which Hunter says can be addressed only through regular education and proper maintenance of security updates. Finally, network managers can help increase uptime by identifying and solving unreasonable work policies.

"This is perhaps the most difficult item to overcome, as network managers are not politicians," Hunter says. "In order to change policies, it requires the ability to change the way upper management sees a problem and tact in describing the solution."

Focus On Applications

According to Gregory Beat, senior consultant with Compass, a consulting company, the proliferation of Web-based applications is forcing network support teams to address technical issues well outside of their technical purview. While network people have typically worked with the first two layers—switches and router tails—of the seven-layer Open System Interconnect Reference Model for the network, they're finding themselves increasingly being asked to troubleshoot the application layer.

"The long-term solution is to build skills, but right now, the applications people are ahead of the network, and the network needs to catch up in terms of smarts," Beat says. "One approach is to force interaction between network and applications people."

However, Beat warns that this approach can be problematic due to the traditional barriers and cultural differences between network and applications professionals. But as perception of the network morphs from mere utility to a more integrated piece of the enterprise puzzle, the need to understand how infrastructure influences applications is amplified. P

BONUS TIPS

Make sure support is ready for wireless. As wireless users and the variety of Wi-Fi devices continue to grow, enterprises will soon find themselves forced to support mostly wireless-focused network issues. Greg Murphy, COO of AirWave Wireless (www.airwave.com), recommends that network managers immediately consult with the manager of IT operations and the help desk staff to assess their ability to support end users.

"Review both the tools and the processes the operations group has in place to respond to wireless support calls," Murphy says. "Does the first-level staff have the information and the training they need to accurately diagnose wireless issues? Are the tools being used easy for the first-level help desk staff to understand? Are the help desk team members familiar and proficient in using the wireless management tools in place? Are escalation processes well defined, so the data center staff receives clear and consistent information when network issues are escalated?"

Ensure secure server passwords. Another area requiring increased attention is password security. User passwords are given regular priority by network managers, but according to Robert Grapes, enterprise solution specialist at Cloakware (www.cloakware.com), similar attention should be given to server passwords, which can provide access to valuable customer databases and financial applications.

"Most data centers either update these passwords manually or do not update them at all," Grapes explains. "Those that are updating manually find that changing and managing these passwords is labor-intensive, time-consuming, error-prone, and expensive. Those that are not managing them at all will be forced to do so by their auditors to address security directives in legislation such as PCI, SOX, GLBA, and FISMA. There are now products on the market that will automate this process."

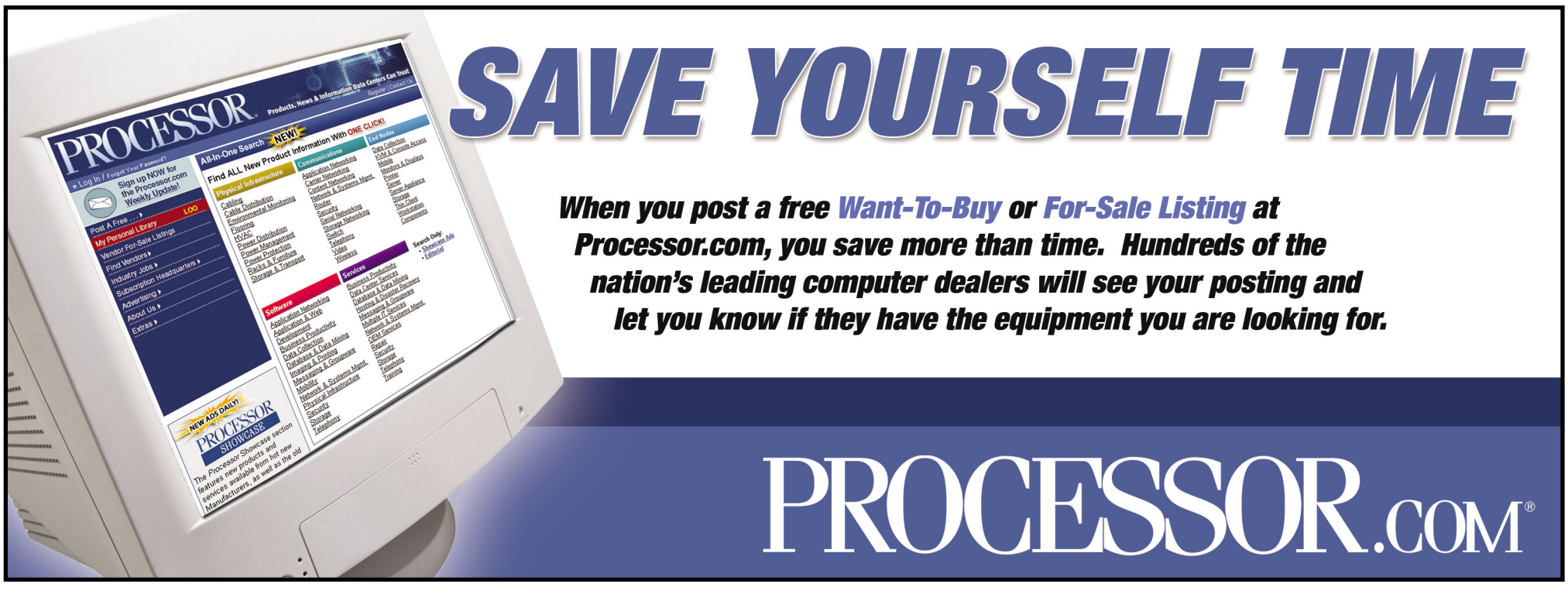
BIGGEST TIMESAVER: Consider Remote Tools

❍ Although it's good for the heart, walking can be detrimental to work processes. According to C.C. Fridlin, director of product marketing for Avocent (www.avocent.com), any time an administrator must get up and walk to the server room or the data center, a tremendous amount of time is wasted.

"There may be existing embedded capabilities that administrators can use to save time. Look at the tasks that require administrators to go to the data center. Then look for remote tools that provide remote access, allowing [administrators] to remain at their desk rather than having to walk to the data center. People will be more productive if you can keep them in their chairs," Fridlin says.

MOST UNUSUAL: Be Sure To Communicate

❍ The National Education Association's Jay Hunter lends what he considers an unusual tip: Talk to the users of your environment. "The sad thing is that this is unusual. Most of the time, network managers sit back and wait for the users to come to them with an issue. But when you greet them and speak with them—even if it's only for a few minutes—it does a lot to help smooth over the work environment and sometimes helps you find an issue before it becomes a problem."



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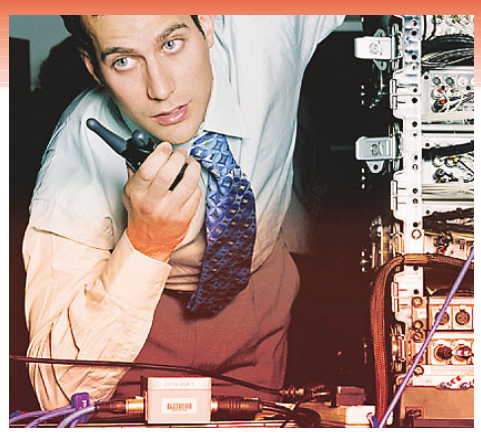

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Virtual RAID Boosts Video Surveillance Storage

Pivot3 Enters The Market With An IP-based RAID Platform

START-UP PIVOT3 has entered the scalable network storage market with a "virtual distributed RAID" platform, which the company says can slash storage infrastructure costs by half while improving scalability and data availability.

The RAIGE (RAID Across Independent Gigabit Ethernet) storage cluster is the first system from Pivot3 based on a block-level virtualization architecture that eliminates

the need for traditional RAID hardware and storage controllers. Data-protected storage is supported across networked nodes, called Databanks, which are built using x86-based servers connected by Gigabit Ethernet.

"This is an alternative that not only can reduce cost up to 50% but can also provide five times or more the performance of traditional storage," says Jeffrey Bell, vice president of marketing for Pivot3.

The ability for RAIGE to simply and cost-effectively handle data-intensive application workloads has made it attractive to customers within the video surveillance space. Breaking into that market is requiring Pivot3 to work within the existing partner community, a practice the company is likely to continue to use as it targets additional markets.

"Businesses considering video surveillance are looking at cameras or video management software and are working with security integrators," Bell says. "We've been working with those types of providers to get the leverage we need in the market."

The platform is well-suited for apps requiring content aggregation, including use for medical records, oil and gas exploration, and archiving. The use of standard server platforms can allow a business to create a pay-as-you-grow model, adding drives as needed without disruption.

"Data recovery times are five to 10 times faster than other storage alternatives due to system-wide parallel processing and a Pivot3-created algorithm that optimizes the rebuild process," he says. Data is continuously made available through volume provisioning changes that support on-the-fly configuration changes.

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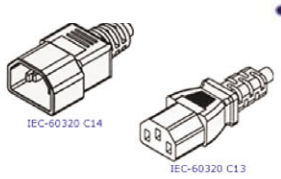

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4663	1.5 foot	10A	18/3
1736	2 foot	10A	18/3
7691	2.5 foot	10A	18/3
5413	3 foot	10A	18/3
1775	3.5 foot	10A	18/3
2965	4 foot	10A	18/3
1778	4.5 foot	10A	18/3
3262	5 foot	10A	18/3
9160	5.5 foot	10A	18/3
5612	6 foot	10A	18/3
3220	6.5 foot	10A	18/3
1228	7 foot	10A	18/3
2986	8 foot	10A	18/3
4671	1 foot	13A	16/3
4403	1.5 foot	13A	16/3
4670	2 foot	13A	16/3
4142	1 meter	13A	16/3
8037	4 foot	13A	16/3
2832	6 foot	13A	16/3
7365	1 foot	15A	14/3
4962	1.5 foot	15A	14/3
1965	2 foot	15A	14/3
7231	1 meter	15A	14/3
1529	4 foot	15A	14/3
7415	5 foot	15A	14/3

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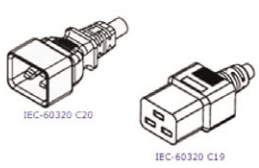

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3101	2 foot	20A	12/3
2992	3 foot	20A	12/3
3002	4 foot	20A	12/3
7784	5 foot	20A	12/3
2928	6 foot	20A	12/3
1007	2.5 meter	20A	12/3
7995	3 meter	16A	12/3
3779	3 meter	20A	12/3

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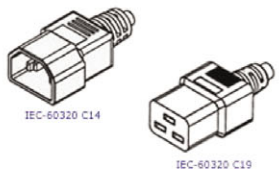

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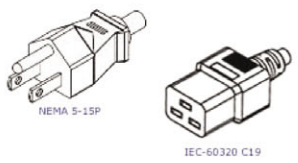
9430	2 foot	15A	14/3
6201	3 foot	15A	14/3
9429	4 foot	15A	14/3
6154	4.5 foot	15A	14/3
9428	5 foot	15A	14/3
4586	6 foot	15A	14/3

AC Power Cord NEMA 5-15P Plug to C19 Connector 125v Black



Item	Length	Amps	Gauge
8788	2 foot	15A	14/3
8826	3 foot	15A	14/3
9118	5.5 foot	15A	14/3
1409	8 foot	15A	14/3
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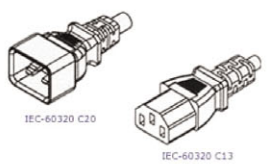
AC Power Cord IEC 60320 C20 Plug to C13 Connector 250v Black



Item	Length	Amps	Gauge
9509	1 meter	15A	14/3
8047	2 meter	15A	12/3
9157	2 meter	15A	14/3
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9183	6 foot	15A	14/3

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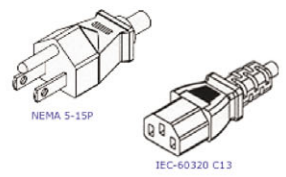

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3862	15 inch	10A	18/3
2996	1.5 foot	10A	18/3
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3858	3 foot	10A	18/3
7232	4 foot	10A	18/3
1063	5 foot	10A	18/3
6085	6 foot	10A	18/3
8797	7.5 foot	10A	18/3
4680	8 foot	10A	18/3
4679	10 foot	10A	18/3
5444	12 foot	10A	18/3
2966	15 foot	10A	18/3
3581	20 foot	10A	18/3
1394	25 foot	10A	18/3
7983	1.5 foot	13A	16/3
3284	2 foot	13A	16/3
8778	1 meter	13A	16/3
1597	3 foot	13A	16/3
6755	4 foot	13A	16/3
8829	5.5 foot	13A	16/3
8779	2 meter	13A	16/3
2889	6 foot	13A	16/3
7853	8 foot	13A	16/3
8780	3 meter	13A	16/3
7238	10 foot	13A	16/3
7534	20 foot	13A	16/3
3268	1 foot	15A	14/3
2133	1.5 foot	15A	14/3
3267	2 foot	15A	14/3
8612	1 meter	15A	14/3
8874	3 foot	15A	14/3
1795	4 foot	15A	14/3
8831	5 foot	15A	14/3
8605	2 meter	15A	14/3
2888	6 foot	15A	14/3
1924	8 foot	15A	14/3
8611	3 meter	15A	14/3

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Meeting SME UPS Needs & More

Tripp Lite Helps Keep Power Coming To The Data Center

by Jonathan Campbell

• • •

Every data center has to consider the power sources its computers run on. The need to avoid a single point of failure is paramount. Commercial computer systems designed for important jobs usually have dual power supplies built into them. For mainframes, very extravagant multiple power supply systems have been used over the years to solve these issues.

Tripp Lite is a company that has been producing power devices longer than most others—since the 1960s, though as far back as 1922 founder Graham Trippe was inventing electrical products. Tripp Lite became possibly the world's best-known manufacturer of portable inverters—providing power for ambulances, RVs, computers, and all forms of electronics. Some other brands have gained the spotlight in recent years, but "today there are more than 16 million Isobars and 6 million Tripp Lite UPS systems in service worldwide," Priscilla Galgan, vice president of sales and marketing at Tripp Lite, says.

Smart Power Solutions

The term uninterruptible power supply, aka UPS, says it all, and a UPS is the current method of protecting computers. But there are plain UPSes, and there are advanced UPSes, according to Rich Feldhaus, a UPS product specialist at Tripp Lite. He points out a number of advanced products Tripp Lite offers for IT environments.

Rich says, for example, the "SmartOnline hot-swappable UPS systems . . . allow end users to perform UPS maintenance without powering down connected equipment or hiring expensive service specialists." The company also offers "PDUs [power distribution units] with power metering, automatic transfer switching, and a network interface," he says. "We're currently the only ones in the market to carry a PDU with combined ATS and network interface in one unit, providing enhanced control capabilities for power networks." He says the company also has "Small-footprint 3-Phase UPS Systems, redesigned to concentrate maximum power protection in the smallest possible space."

PDUs distribute power to multiple loads of networking, server, or telecom equipment or anything else you might have in IT environments. Some of these PDUs include digital load meters that display the total current drawn by connected equipment, which is vital to ensure that the load is not too large for the power supply system because that could result in a power failure. The SmartOnline UPS systems completely isolate connected equipment from all power problems, including blackouts, brownouts, surges, line noise, and even harmonic distortion. These SmartOnline UPSes provide a double-conversion operation, which continually converts incoming AC power into DC power and

Go to Page 11

Company Information

Company Name: Tripp Lite

Location: Chicago, Ill.

URL: www.tripplite.com

Date Company Founded: 1922

Interesting Fact: According to Priscilla Galgan, vice president of sales and marketing at Tripp Lite, "today there are more than 16 million Isobars and 6 million Tripp Lite UPS systems in service worldwide."

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A Unique Cooling Solution

Continued from Page 1

variety of installations and will gladly assist meeting demanding design parameters."

As any data center manager knows, getting units on time can be a headache. But with Data Aire's uniquely short lead times, much of that waiting can be avoided. According to the company, the longest lead time is just four weeks, which can be reduced to one week if necessary. Besides that, the company offers a standard three-year warranty, which is one of the longest in the industry.

One major component of the Data Aire strategy is its focus on raised-floor data centers, which require CRACs that are compact, according to Trower. "Our client base is any company that especially has raised-floor applications, such as banks and financial institutions, government agencies, hospitals, laboratories, and other compute-intensive environments," he says.

More than anything else, Data Aire is keenly aware of the needs of its customers. The company puts its customers' needs first and has created a unique business model where data center managers can have the ability to customize cooling solutions to meet their needs. Whether a data center requires larger units that can go practically anywhere or it requires small units that can be hidden away in small nooks, Data Aire can provide the service.

Uniquely Focused

Unfortunately, in today's competitive market, data center managers are left with very few choices. Larger cooling corporations are single-handedly forcing data center managers to comply with their needs, instead of cooling corporations modifying needs to fit in line with the needs of data center managers. And, as Martin points out, this is what makes Data Aire unique: "We are willing to meet our customers' needs, not dictate what they get. This is especially important for small to medium-size computer rooms that only want a few units." Simply put, Data Aire has the needs of SMEs in mind and acutely understands what data center managers in those businesses are looking for.

Data Aire is one of the most unique businesses in the world. Focusing only on data center cooling solutions, the company has developed a deep understanding and knowledge about what data center managers need when they install and maintain a data center. And with 40 years under its belt, Data Aire has proven itself as a reliable and long-standing organization in the data center cooling industry. Interestingly enough, the company was the first to offer microprocessor control in cooling solutions, giving data center managers the ability to easily manage all cooling in the data center with a central control, and its scroll compressor is one of the most efficient compressors on the market. Finally, the company's standardized steam generator humidifiers are an industry-leading technique that requires less maintenance and reduces a data center manager's upkeep tasks.

In a world where data center cooling is becoming increasingly important, choosing a reliable cooling company is a must. But with the help of Data Aire, cooling a data center could become a simple task. P

Company Information

PROCESSOR COMPANY TO WATCH Data Aire

Company Name: Data Aire

Location: Orange Country, Calif.

URL: www.dataaire.com

Date Company Founded: mid-1960s

Interesting Fact: Data Aire holds the patent for the first company to offer microprocessor control in cooling solutions.

Evolving Mobile Security Threats

Continued from Page 1

Evaluate Your Environment

Dennis Szerszen, senior vice president of marketing at PatchLink, stresses you cannot have a policy until you assess your environment. Determine where your endpoints are because with each new technology trend comes a new endpoint that enters the mix. Then assess whether the mix is acceptable.

Once you have a concept of what your policy will cover, make sure the policy that you build is enforceable because an unenforceable policy is akin to not having one, says Szerszen. Moreover, set up reporting capabilities so that when violations occur, you can take quick action to put a stop to any exploits and to know the new technologies driving the latest attacks. Szerszen adds that auditing is essential to making an alert and works as a sort of cycle to keep network administrators on top of what is going on.

Items For Mobile Security Policy

Jamie De Guerre, CTO of Cloudmark, offers two actionable items for your security policy. First, if you are rolling out devices for your corporate network or enabling access from mobile devices to your corporate network, examine the security models available for these devices and the degrees of lockdown provided. According to De Guerre, the most open devices allow users to install most any application on the device and run it without it being certified by any party.

In contrast, the most lockdown application environments may not allow anything or only allow certified applications that have been digitally signed by either the organization or the mobile service provider to run, says De Guerre. "Even when they do run, they run in sort of a sandbox or managed environment like Java or Microsoft .NET. [The device is] not allowed to access many capabilities on the device, like sending messages or accessing the VPN or whatever else, making the device much more secure."

De Guerre's second actionable item is to make sure that if you are rolling out a mobile email solution for handsets, you install spam-filtering technology that works to filter messages before they're passed to mobile devices.

SMobile's Tuvell says a main component of your mobile security policy must include remote lockdown and remote wipe capabilities, along with an encryption standard, so if the device leaves the organization, either through employee turnover or through a device being lost or stolen, an administrator can remotely wipe out all the information on the device. P

Mobile Security Products

Manufacturer/Product	Description	Pricing
ChosenSecurity TC Enterprise ID *www.chosensecurity.com*	• Offers managed services solutions for digital certificates • Provides companies the ability to give their employees secure access to networks so they may access secure email and applications and use digital signatures	Starts at $20,000, with discounts available depending on the number of users
Cloudmark Cloudmark Server Edition (aka CSE) *www.cloudmark.com*	• Provides Microsoft Exchange mail servers with spam-blocking, antivirus, and antiphishing capabilities that block mobile devices (including smartphones running RIM, Palm, Symbian, and Windows Mobile operating systems) from these attacks • Offers real-time automatic feedback through the company's Global Threat Network and robust reporting capabilities	Starts at $1,599 for a one-year, 75-user subscription; savings offered for larger and multiyear subscriptions
PatchLink Sanctuary Solution (incorporates Sanctuary Application Control and Sanctuary Device Control) *www.patchlink.com*	• Provides the ability to quickly and easily define and enforce policies for portable devices and applications in one simple solution • Provides a single console to integrate the views and reports of application and device activity and their interaction, as well as the attempted use of unauthorized applications and devices • Provides granular application and device access rights control to a specific device or user group or at the highest level • Protects network from data leakage and malware and provides compliance with evolving regulations that govern privacy and internal controls	Starts at $41 per license (for both the application and device control components), with volume discounts available
SMobile Systems SMobile Security Shield for Handsets and SMobile Network Shield for Networks *www.smobilesystems.com*	• Security Shield provides an integrated end-to-end security solution for smartphones and other mobile devices that includes comprehensive protection from malware, spam, and spoofing exploits • Network Shield provides networks with an end-to-end security solution that blocks viruses, spam, and malware from gaining access from a mobile device into the core network	N/A

Bringing You Closer To Your Network

Western Telematic Wants To EmPOWER Your SME

by Chris A. MacKinnon

• • •

What's worse than having a network device lock up on you? How about when the same device is at a remote location? Or consider the number of times you needed access to a remote device to change configuration parameters or perform a variety of other control-related functions. Trying times call for a company that can help in both situations. Western Telematic, a California-based data connectivity designer and manufacturer, has the right tools for both jobs.

Designed For You

Western Telematic, aka WTI, offers remote console and power management products that fit into any small to midsized enterprise. Tim Peterson, spokesperson for WTI, says his company bases its technology on customer need. He says, "Both of our Console Managers and Power Management products were designed based on what we heard from our customers and from new clients that visited our Web site. They wanted ease of functionality, stability in a product, and to fill specific needs that they had in their data centers."

Peterson says the company's RSM (remote site manager) Series is heavily used in Cisco (www.cisco.com) and Juniper (www.juniper.net) applications for remote access or for management of their colocations. The RSM Series uses DB-9 ports vs. RJ45 ports. Peterson says WTI uses the DB-9 connection because both Cisco and Juniper provide a 9-pin console cable to connect to their respective devices. He notes, "When a client connects the cable directly to our RSM product, they are up and ready to go with no special configuration required." He says customers love this type of functionality.

According to Peterson, WTI's customers also enjoy having an internal modem for out-of-band management. He comments, "This allows customers to connect to their network even if the firewall is down. Most companies sell an external modem to connect to their console managers, which adds additional costs and configurations. We have also integrated a simple, yet robust, software interface to make setup and management a breeze for network engineers."

David Shepherd, network engineer for Goodrich (www.goodrich.com), a global supplier of systems and services to the aerospace, defense, and homeland security markets, has been using Western Telematic solutions for some time now. Shepherd notes, "We have been WTI users for about eight years now and are very pleased with the performance, reliability, and ease of use. The WTI products provide out-of-band access to critical network devices such as routers, core LAN switches, and other network gear. Having the capability of interacting with the infrastructure via the console port allows us to configure equipment from scratch, view and interrupt the boot process if needed, and perform changes to the equipment with or without the WAN link being up and operational."

Shepherd says WTI's RSM products are deployed at all Goodrich-owned data centers and manufacturing sites. He says his network consists of five international data centers and more than 140 locations.

Designed For Two

Peterson says WTI designed all of its power manager devices, such as the IPS Series and MPC Series, with dual inputs. He says, "This allows network engineers to connect servers or routers that have

Go to Page 12

Company Information

Western Telematic (WTI)

Company Name: Western Telematic (WTI)

Location: Irvine, California

URL: www.wti.com

Date Company Founded: 1964

Interesting Fact: WTI offers free technical support. You can call the company at (888) 280-7227 between 8 a.m. and 5 p.m. Pacific Time.

Meeting SME UPS Needs & More

Continued from Page 9

then resynthesizes it back into normal AC power.

Tripp Lite also offers SmartPro intelligent line-interactive UPS systems, which provide automatic voltage regulation and battery backup for a wide range of applications, including servers and telecom systems. Line-interactive voltage regulation corrects brownouts and over-voltages by converting poor power back to usable AC output levels without using the battery power.

The company offers a broad range of UPSes for different computer systems, ranging from a few hundred VA (volt amperes) in capacity up to systems totaling 30kVA. There are towers, as well as rack-mountable and wall-mountable versions. Some of these allow you to have external battery banks, which make it easy to change the batteries occasionally to ensure they are at full performance. These UPS systems can come with many of the above advanced features.

Power System Confidence

When SMEs are considering data center equipment for purchase, there are several common questions they take into consideration: How good is the brand and company? How long will it last? How good is the warranty?

According to Galgan, "From the IT department's perspective, what happens after the sale is a question of vital importance." She says that most Tripp Lite UPSes come with a two-year warranty, and some products, including PDUs, come with a lifetime warranty. In addition to the warranty, many of the company's power protection products include Ultimate Lifetime Insurance coverage for equipment connected to the product, which includes coverage up to $250,000 for UPS systems and up to $500,000 for surge suppressors.

In addition to included warranties, Galgan says that Tripp Lite has help for customers that's just a click away: "Whatever it takes to provide customers with UPS selection and sizing, advice on technical issues, or whatever other assistance they need, Tripp Lite's Web site provides an easy-to-access source of technical product information and a variety of simple-to-use online tools, such as the interactive UPS System Selector Guide."

The SmartOnline UPS systems completely isolate connected equipment from all power problems, including blackouts, brownouts, surges, line noise, and even harmonic distortion.

Storage August 24, 2007

Isilon's New Clustered Storage Systems

Flexible Storage Expansion For Nearline Archive & Disaster Recovery

Choosing the right storage solution is not easy. You have to understand all the requirements, including availability, size, and speed. Knowing what's required for backup, especially if you have a regulatory requirement, is critical, as well. Then you must take into consideration budgetary constraints.

The combination of the Isilon IQ 9000 and EX 9000 products offers a flexible storage system capable of meeting many—if not all—of your backup and storage needs. Each EX 9000 box holds 9TB of SATA-II disk in a 2U form factor utilizing SAS to connect to an IQ 9000 node.

The OneFS OS is a distributed file system supporting clustering with a fully journaled and distributed, globally coherent write/read cache, so you can add storage as needed locally or remotely without interrupting service. It also makes secure and reliable disk-to-disk backups possible.

Nearline archiving makes it possible to move less frequently accessed data from more expensive high-performance/high-reliability storage to cheaper second-tier disk-based storage. This makes it possible to still access the data as opposed to taking the data completely offline with a tape backup.

Disk-to-disk backup makes sense when you have big enough storage to keep an adequate number of backups available. That number will vary depending on the application and the criticality of your data. Some organizations run continuous backups, while others only need nightly incremental and weekly full backups.

Isilon also offers its SyncIQ asynchronous replication software as an offsite disaster recovery solution. This makes it possible to perform the disk-to-disk backup to a remote location and restore the same way. With the IQ 9000 and EX 9000, it is cost-effective to replicate data to multiple locations.

Isilon Systems IQ 9000 and EX 9000

IQ 9000: $37,250 per node (three nodes required to run a cluster)

EX 9000: $22,250 per node or $2,500 per terabyte

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Keeping Colocation Cool

RagingWire Serves High-Density Customers With Ease & Cooling

by Elizabeth Millard

• • •

As high-density equipment becomes more popular, the question of how to cool such heat-producing machines is increasingly asked at many small to midsized enterprises. SMEs appreciate the technological gains of blade servers, for instance, but may not have the data center space, electricity, or cooling needed for that kind of power.

That's where RagingWire Enterprise Solutions comes in. As a colocation facility, the company does more than house high-density machines, but more and more, that's what customers need.

"In the past, one of the biggest differentiating factors for us was that we were profitable in a space that no one else was in the marketplace," says Doug Adams, the company's vice president of sales and marketing. "But now they look to us more to handle ultra-dense environments and handle tier-one bandwidth. A lot of data centers out there don't provide that in conjunction with support services."

The company is a pure-play data center, adds Yatish Mishra, RagingWire co-founder and president. Clients appreciate its vendor-neutral approach so they aren't forced into buying bandwidth from one provider. "We have five providers, so if one goes down, we shift to another," he says. "That helps to support core business goals for our clients."

Company Information

Company Name: RagingWire Enterprise Solutions

Location: Sacramento, Calif.

URL: www.ragingwire.com

Date Company Founded: May 2000

Interesting Fact: Don't think you can get out of the hot California sun by popping into the colocation facility: The data centers have advanced biometric security, and only a handful of people have access.

Data Center

When the company was founded in May 2000, it designed and built a hardened, class "A+" Tier-IV enterprise data center, with particular attention paid to making it seismically stable—an important consideration due to its location in Sacramento, Calif.

Although the facility was designed for Fortune 1000 customers and has attracted clients such as Hitachi Data Systems (www.hds.com) and Nvidia (www.nvidia.com), it also has a large number of SMEs that want greater density and storage systems but don't have the facilities available to build out in the way they'd like.

RagingWire's center, by contrast, has been created as a kind of IT manager's wish list made into reality. The facility, and other RagingWire centers like it, have been engineered to five nines for service availability; have fully redundant industrial diesel-powered generators, UPS systems, and custom-designed power distribution units; and rely on a redundant industrial-grade chilled water plant that provides power and cooling systems that scale beyond 225 watts per square foot.

"Because we have larger scale, we need the chilled water plant to have more efficient cooling," says Mishra. "We use evaporative cooling, with air forced through coils of chilled water, and that transfers the heat out and reinjects the cooling into the data center floor."

In other words, when the summer sun is baking Sacramento, the engineers at RagingWire look forward to going to work.

Managed Services

Another differentiating factor, particularly for SMEs, is RagingWire's services beyond simply housing and cooling equipment, Adams notes.

"People care about high density, but they also want quality and quantity of Internet, and then you start to get into business structure issues," he says. "They're looking for scalability, and so we offer services to support them."

The company has an array of IT services, including application services and infrastructure offerings, network services, disaster recovery, network security, Web hosting, and call center support.

A popular option has been professional services, which give clients access to a team of IT engineers who can offer design, implementation, testing, performance tuning, and troubleshooting with areas such as networking, servers, security, and applications.

Build Out

The company has made a number of strides within the past year to try and stay ahead of competitors and distinguish itself from the numerous colocation companies in the country.

Most recently, it announced in late August that it had added 46,000 square feet of high-density floor space to its data center facility in Sacramento. The new phase has been engineered to provide 200 watts per square foot edge-to-edge and more than 1,000 watts per square foot in isolated areas. The company has been able to achieve the density needed by building in a 4-foot raised floor, multiple chillers, and using a 30-foot ceiling.

Earlier in the year, the company addressed concerns about increasing power demands—particularly in California—by constructing a dedicated and owned power substation that is onsite. With a total design capacity of 46 megawatts, the fully redundant substation is likely to ease any fears that a massive power shortage in the state will take down all those well-cooled high-density servers.

"We believe that the demand for high density and for managed services is just going to grow," says Mishra. "Building a data center is very expensive for an SME, and using our facility is a way to be more effective in meeting their business goals." P

Bringing You Closer To Your Network

Continued from Page 11

dual power supplies. In the event that a server or router has a power supply failure, the product's secondary cable keeps them up and running with no downtime. Our power managers are also used heavily in lab environments." Peterson says companies such as EMC (www.emc.com), Cisco, and Meru Networks (www.merunetworks.com) write scripts for WTI's power managers to power cycle their products for testing before the product is shipped out to the customer.

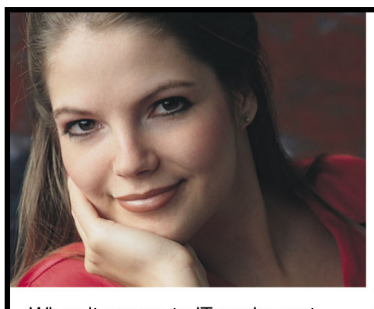
Shepherd says WTI's auto-ranging power supplies allow Goodrich to deliver a single product worldwide without worry of local electrical standards. He says because the equipment is designed to be rack-mounted, the finished installation is "neat and clean."

WTI has also had a growing demand from customers who want to know about amperage, wattage, and voltage readings and temperatures (along with power-on, power-off, or reboot capabilities in data centers). Peterson says this is why WTI designed the MPC (managed power controller) product. He explains, "We can send reports and graphs to engineers anywhere in the world to allow them to know exactly what is going on with their equipment. We were the first company to incorporate all of these functions into one single device."

Peterson says WTI also designed the MPC series to support full MIB (management information base) and SNMP (system network management protocol) traps. He says by having this functionality, network engineers can now use any third-party software to globally manage their servers, routers, and firewalls.

Western Telematic designs and manufactures all of its products and has its technical support headquarters in Irvine, Calif. Peterson says this combination enables WTI to produce "the best solutions available in the market," which, he adds, includes a five-year warranty. "It also allows us to employ the best engineers in the country."

So what is on the horizon for WTI? According to Peterson, "We are constantly innovating new Console and Power Management solutions based on what the industry calls for." P



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Data Compression Without Performance Penalty

Storewiz Offers Optimization Solutions For Storage Applications In The Data Center

by Julie Sartain

• • •

BIG FILES USE MORE DISK SPACE and more memory; take longer to access, save, upload, and download; and chew up more bandwidth. The obvious solution is smaller files. But what if that's not possible? Some files just cannot be broken up into smaller bite-sized pieces and, unfortunately, just have to be swallowed whole. For these monsters, the solution is data compression—but is there a solution that compresses primary data without any performance penalty?

Simplified Optimization

Storewiz, based out of San Jose, Calif., develops and markets simplified optimization solutions for storage applications. According to Jon Ash, the company's vice president of sales in North America, Storewiz believes there's a better way to manage data centers. "We offer a more efficient and environmentally aware approach to data management," says Ash. "And we have developed real-time data compression solutions to help organizations that are struggling with exploding data growth—as well as out-of-control costs associated with power, cooling, and space—reduce their organizational data footprint."

Storewiz clients are primarily data centers; however, smaller organizations can significantly benefit by implementing Storewiz as an integral component of their storage infrastructure, notes Ash, and with a significant savings gained immediately. Storewiz markets its solutions via a channel network of resellers and distributors worldwide.

Storewiz provides its customers a solution for compressing their primary data without any loss of performance. The solution has a significant and, frequently, immediate return on investment. It's based on a high-performance appliance that requires no network changes to the existing environment, and it provides transparent, real-time compression.

"Our current product portfolio includes the STN-6000 product family," says Ash, "which offers comprehensive primary data compression solutions. We have an experienced R&D team with seasoned individuals coming from the storage and networking arenas. R&D efforts are ongoing to continually improve and enhance even greater functionality of the Storewiz existing solutions and to further increase our impressive performance results and compression ratios even more."

The current products Storewiz is shipping address the NAS market, but they are agnostic to any one vendor. Future products include a range of data compression for SANs, and the company has plans to add additional capabilities and applications to its existing solutions. The most immediate is to provide Fibre Channel and iSCSI connectivity, which will open up the entire storage market to their offerings.

"We have an experienced R&D team with seasoned individuals coming from the storage and networking arenas."

-Storewiz's Jon Ash

How It Works

"Storewiz is the only primary data compression vendor on the market today," says Ash. "Our unique solution is one of a kind. Many other vendors have attempted to develop this type of solution, including systems and storage vendors, but Storewiz has solved some fundamental issues that allow us to perform real-time compression without any system performance penalty."

While the concept of the technology is simple to understand, the actual design and development work has taken a lot of time and superior engineering talent. "We have two dozen pending patents," says Ash.

There are vendors developing similar solutions that claim they will have products next year. However, when they release their first product, Storewiz will have customers who have been live for over 18 months. "We do not intend to lose that lead," says Ash.

According to Ash, Storewiz has developed a unique technology that enables significant savings on data volumes written to storage systems on the initial write. This patent-pending algorithm allows write and read operations from any location within the file while avoiding the need to open the entire file. Because the data is written already compressed, the Storewiz application is completely transparent to the storage/user, and there is no need to schedule any storage operation. This unique ability is aligned with the Storewiz approach and vision of optimized storage for 24/7 availability with no interruption.

At the inception stage, two major limitations continuously challenged and drove the Storewiz product design, adds Ash. First, to ensure optimization of data compression ratios and, second, to ensure that performance is never compromised. From the company's first product offering, both industry breakthroughs were achieved, and Storewiz continues to consistently optimize its products, providing enhanced results.

It has taken four years from inception to the product shipping today. "As we have widened our customer base," says Ash, "we are constantly faced with higher performing and larger storage systems that require us to develop products with matching capabilities. The fact that we have customers using the solution for more than 12 months who are coming back with repeat orders tells us that we are succeeding in meeting their requirements."

Looking Ahead

"We have a worldwide coverage of sales, support resellers, and partners," says Ash. "We target users of NAS storage today and have success in multiple different verticals. We are continually adding new features and functions and enhancing the throughput and connectivity of our solutions. We intend to ensure that even when competitive products are released, we have such a strong feature set, that we will maintain our lead in the marketplace." P

Company Information

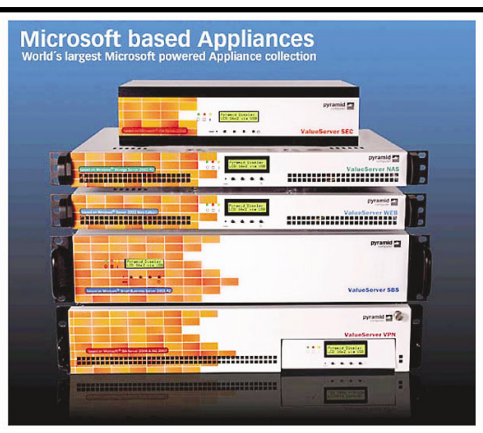
Company Name:
Storewiz

Location:
San Jose, Calif.

URL:
www.storewiz.com

Date Company Founded:
October 2004

Interesting Fact:
Storewiz is the first to market a product that makes good business and environmental sense. The company had a vision: to recognize the needs of users whose data storage requirements far outpaced their budgets and management resources and to have the engineering talent to solve these problems.



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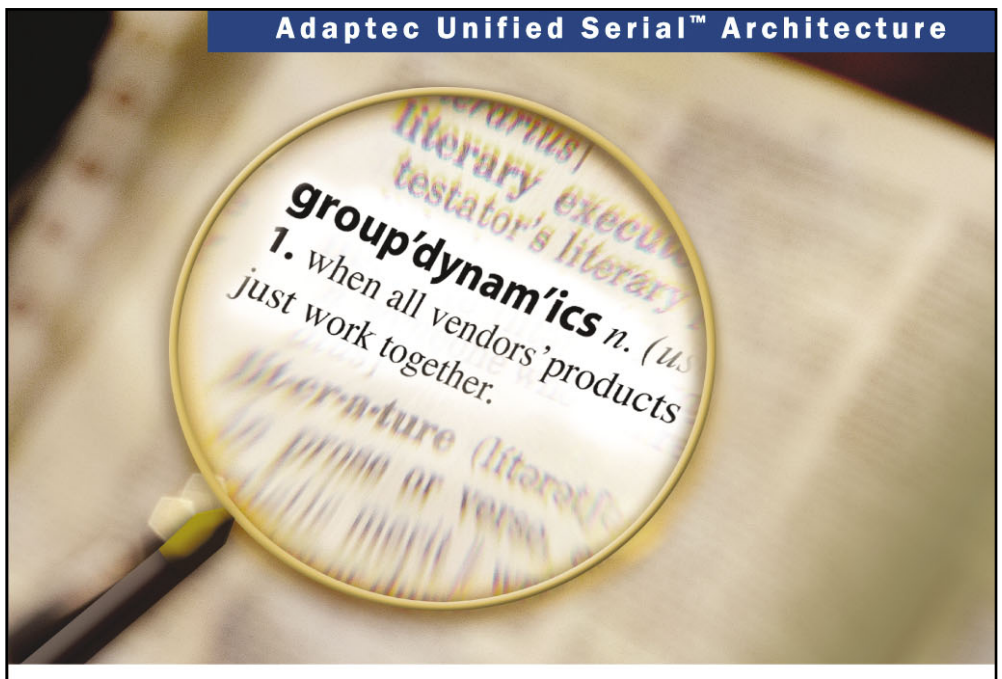

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Product Releases

Clients

■ **ADLINK Technology** released the PXIS-2690P portable PXI chassis, which includes a 15-inch LCD, a keyboard, a touchpad, a DVD drive, and a 500W power supply. The aluminum-alloy frame offers 14 slots in a 3U form factor. It's PXI specification 2.2-compliant and has three 120mm fans that offer 223.5 CFM airflow. ADLINK has tested the chassis for shock and vibration protection and is targeting it at military, field, and in-vehicle testing environments. The chassis' slots support 3U PXI and Compact PCI modules, including digital I/O cards, data acquisition cards, and multimeters. The PXIS-2690P is available for $6,450. ADLINK offers volume discounts.

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■ **Imperva** announced Imperva OpenSphere, a service to help deploy SecureSphere solutions on preintegrated third-party products, content and information feeds, delivery platforms, and best practices. OpenSphere provides four different categories of integration: Content*In*, Information*Out*, Delivery*On*, and Compatible*With*. ContentIn lets partners contribute content, such as best practice templates or vulnerability data, and tailor a SecureSphere deployment. Information*Out* helps customers utilize feeds, such as audit logs or security events, and Delivery*On* allows for deployment of software or hardware platforms that run on SecureSphere. Compatible*With* helps to assure that the application functions SecureSphere supports won't interfere with normal business usage.

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■ **Pervasive Software** released Pervasive DataSynch, software that is designed to synchronize data between applications such as QuickBooks and Salesforce with on-demand CRM applications. DataSynch is designed to be low-cost, with a short learning curve and light footprint. Features include the ability to view one customer at a time (so as to avoid dual entries), dedicated tech support, and synchronizing inventory with product line items. In addition to a one-time setup fee of $495, the service costs $75 per month for up to 10 users.

Messaging & Telephony

■ Businesses looking for turnkey SIP IP PBX devices for the enterprise should look to a new line of appliances from **Pingtel**. The SIPxchange SE can provide VoIP to up to 100 users. The SIPxchange ME scales up to 1,000 users, and the SIPxchange LE can support "several thousand." The latter two can come in redundant high-availability mode and support geographically distributed servers.

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■ **ZyXEL Communications** announced its SIP IP phone designed for maximum efficiency and convienence, the ZyXEL V500. The V500 will be the flagship phone of ZyXEL's new 500 series. Features of the phone include hard keys; a large, 4.2-inch display; and TIA-810-certified voice clarity. Up to four SIP accounts can be used on a single device, and it's capable of using different codecs and bit rates to adapt to varying network demands.

Networking & VPN

■ **AdventNet** announced a new feature for its ManageEngine ADManager Plus active directory management and reporting software. It lets administrators configure LCS (Live Communication Server) attributes for specified users in the Active Directory from its Web-based console. With ADManager Plus, the administrator can configure various LCS attributes along with other attributes, such as General, Contact, Exchange Server, Terminal Services, and Custom attributes. Some of the LCS settings with ADManager Plus include Federation, Archiving, and Remote Control. Using predefined templates, administrators can apply configured settings to single or bulk users using the CSV import feature.

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■ **KACE** announced an integrated appliance for managing both virtual and physical environments. It has also announced KBOX vState Management, a technology that lets users reprovision or reconfigure virtual machines based on centrally defined system images. The Systems Management and Systems Deployment Appliances provide many common management tools, including remote VM deployment using K-imaging, scripted installation, and pre- and post-installation tasks; agentless deployment of both physical and virtual machines; comprehensive management of VMs; and a single, integrated agent.

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■ **Net Optics** released a family of Link Aggregator products to reach a higher level of visibility for monitoring network performance and security threats. It includes four separate monitoring ports in one device, each capable of seeing 100% of an organization's network data, voice, and video traffic from up to four network or eight Span ports. The family of products offers features that include support for 10/100 Zero Delay technology, interfaces for 10/100/1000 (triple speed) Span or inline and Gigabit fiber network speeds. Finally, the Link Aggregator products use SFP (small form-factor pluggable) monitor port interfaces for enhanced flexibility, allowing Gigabit copper, fiber transceivers, or a combination of both to be positioned in any of the four monitoring ports.

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■ **Pano Logic** has announced an all-hardware, no-software device that performs server-based desktop virtualization. The Pano device joins a keyboard, mouse, monitor, audio devices, and USB peripheral devices over an existing IP network to an instance of Windows XP/Vista. By placing all software on the server rather than the desktop, the device requires no CPU, no memory, no OS, and no drivers. All software work, including installations and updates, occur at a central location and not at the desktop endpoint. The device's Pano Button provides instant access to rollbacks from corrupted instances of Windows and VM switching.

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■ **Virtugo Software** announced the release of virtualSuite r6, a software suite created to integrate management platforms for VMware and increase platform utilization. virtualSuite r6 is designed with advanced sensor technology to allow the monitoring and control of thousands of virtual machines. Components of the suite include Virtugo Perform for performance management, Virtugo Optimize to maximize utilization and increase productivity, Virtugo Capacity to monitor and document statistics, Virtugo Meter to track resource use, and Virtugo VDI, which organizes virtual and physical desktops into a single console. virtualSuite r6 is $349 per CPU socket.

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Go to Page 17

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Product Releases

Continued from Page 16

■ The GS-2724 is **ZyXEL Communications'** new managed L3 Gigabit switch for SMEs. The GS-2724 is a 1U, 19-inch unit that can offer L2/L3 networking and VoIP, VLAN, and QoS functions. It offers 24 100/1000 RJ-45 ports and packs four "dual-personality" GbE interfaces. With multilayer ACL that provides L2/L3/L4 indicators for network traffic policies, the GS-2724 has a robust security design.

Physical Infrastructure

■ **ATEN** released three models in its KVM Extender line, including the CE250A PS/2 KVM Extender, CE800 USB KVM Extender, and ALTUSEN KE0220 Audio/KVM Extender. The products allow KVM signals to transfer over distances up to 250 meters between a computer and the KVM while also giving users surge protection, audio, and USB mass storage capabilities. The CE250A features a PS/2 extender that allows users to control the system from a local or remote console up to 150 meters away. The CE800 unit connects local and remote units up to 250 meters away via CAT 5 (or higher) cable. The KE0220 KVM Extender transmits video, stereo speaker, and microphone signals via CAT 5 cable up to 200 meters. It includes Adjustable Gain Control, which results in a video resolution up to 1,600 x 1,200 pixels, as well as upgradeable firmware.

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■ **Panduit** has unveiled the PanView Local Scanner, a 1U device designed to monitor and manage the physical connectivity information of a remote network, reporting information back to a centralized PanView System server. Also, as a cost-effective solution for satellite location, the PanView Local Scanner supports up to 144 ports and includes built-in controls for an easy on-site patch cord tracing. Additionally, the PanView Local Scanner extends physical layer visibility to remote sites that were previously unmanaged.

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■ **Staco Energy Products** has announced the TreStar P line of three-phase UPSes. These products can operate in parallel, providing added redundancy and capacity. As many as eight TreStar P modules can be configured in parallel, and the devices also include a digital control system to prevent overloads, frequency variations, transients, flicker, and blackouts. Digital control systems can process signals 10 times faster than analog methods can. The TreStar P products include a front control panel with an LCD and an output power factor of 0.9. They also feature a Vector-Controlled IGBT Inverter and an input circuit breaker. Models are available from 125 to 225kVA and for applications with input voltages of 208 Vac or 480 Vac and a range of +15/-20%. The input frequency is 60Hz, and output is limited to ±1% for balanced loads and ±3% for unbalanced loads. Output voltage is limited to 3% or less for linear loads.

Security

■ **Aladdin Knowledge Systems** announced that Aladdin eSafe 6 now gives organizations the ability to inspect HTTPS traffic encrypted with SSL. Delivered on the eSafe Hellgate appliance, the eSafe Web SSL reveals malware threats hidden in encrypted traffic, helps enforce content security policy for all Web traffic, and enhances HTTPS certificate validation and authorization. All eSafe Hellgate appliances come preconfigured with best practices security configurations, ensure built-in load-balancing and failover with a new eSafe Cluster mode, and provide flexibility to be customized as an organization's needs change. The new SSL content inspection technology lets all security policies that apply HTTP traffic to also apply to HTTPS-encrypted traffic, halting malware from infiltrating networks through encrypted channels and closing the door to rogue applications.

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■ **Fortinet** released the FortiGate-60B and the FortiWifi-60B, security appliances for UTM that are designed for enterprise branch offices, retail outlets, and small businesses. The FortiWifi-60B provides the same features as the FortiGate-60B but is designed to address secure wireless connectivity requirements. Both appliances deliver real-time network protection via firewall, antivirus, VPN, IPS, antispam, Web content filtering, and traffic shaping. Each service can be deployed individually or combined as a part of UTM. The FortiGate-60B and FortiWifi-60B both include dual-WAN interfaces, an integrated analog modem, six internal interfaces, and one DMZ interface to allow network administrators to segment trusted and untrusted areas. Additionally, both appliances feature a front-accessible PC card slot that supports 3G wireless PC cards from multiple carriers.

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■ **McAfee** has launched its Easy PCI Plan, intended to assist organizations with the PCI DSS (Payment Card Industry Data Security Standard) before the biggest online shopping day of the year, Black Friday, and before government deadlines go into effect. The McAfee Easy PCI Plan features three integrated protection and compliance solutions: McAfee Total Protection, McAfee Foundstone, and McAfee IntruShield. This combination of integrated SRM (Security Risk Management) solutions directly map to more than half of the 12 requirements of the latest PCI DSS standard.

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■ **Trend Micro** has released its Trend Micro InterScan Web Security Appliance, an all-in-one product aimed at protecting networks from incoming virus and spyware attacks and also from malicious and inappropriate Web content. The appliance is available in Standard and Advanced versions. In addition to including the Standard Edition's features, the Advanced version gives customers integrated, policy-based URL Filtering and Applet and ActiveX Security. Further, the appliance assesses the safety of Web pages based on behavior and content. The InterScan Web Security Appliance Advanced device is available starting at $22,950 for up to 1,000 users.

Servers

■ **Fujitsu** launched PRIMERGY TX120, a low-power, energy-efficient tower server aimed at SMEs. It features a dual-core Intel Xeon UP processor; four DIMMs up to 8GB each; 4-port SAS controller with RAID 0, 1, and 1E; and an onboard Gigabit Ethernet controller. At its peak output, the PRIMERGY TX120 consumes only 163W. The unit measures 13 x 4 x 16 inches (HxWxD) and is whisper-quiet at 28dB while idling and 31dB under load. Pricing starts at $1,058.

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Product Releases

Continued from Page 17

SERVICES

■ **EVault** announced enhancements for its EVault Insight online review service, a hosted, online electronic discovery service that features a technology and professional services component. The enhancements help serve the needs of corporations and law firms that manage electronic discovery for regulatory compliance, retention, and litigation. TIFF image-based review capabilities were added to let review teams quickly examine large document collections. To further expedite the review process, EVault Insight can create TIFF images during processing. Additionally, EVault Insight now offers full Unicode support for foreign languages, including Mandarin Chinese, Japanese, and Cyrillic. To offer expanded collection services, EVault Insight works with Seagate Recovery Services to offer tape restoration and hard drive mirroring.

STORAGE

■ **APTARE** released APTARE StorageConsole Platform 6.5, which offers storage capacity management reporting. The software combines storage capacity management and backup reporting, letting administrators run reports to check on storage utilization. The software is based on Web 2.0 architecture and supports the APTARE StorageConsole Capacity Management application, as well as the APTARE StorageConsole Backup Management module. The module features support for Symantec Backup Exec 11D and HP Data Protector. The StorageConsole Capacity Management application helps administrators see allocated and used storage. The platform supports distributable dashboards or reports; administrators can distribute them via HTML, CSV, or PDF, as well as email. The platform also includes some reports out of the box for new users. The StorageConsole Platform 6.5 will be available at the end of this month.

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■ The iPBridge line of products from **ATTO Technology** can now be updated with version 4.0 firmware, the company says. iPBridge products bring iSCSI connectivity to Fibre Channel and SCSI storage network devices. New features include an ExpressWizard Configuration tool and, for the iPBridge 2700 only, ExpressFairness. The latter smoothes data streaming and fairly allocates bandwidth when an iPBridge is hooked up to a large number of hosts.

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■ **CRU-DataPort** released a military-grade removable hard drive carrier. The Data Express DE275 mounts low-profile (up to 1 inch high), 3.5-inch hard drives in half-height, 5.25-inch bays. The DE275 has extra shock and vibration protection and dual lock-down thumbscrews. Aluminum or sheet-metal versions are available, and the drive carrier is RoHS-compliant. The Data Express DE275 is available in SATA and SCSI interfaces. Users can take advantage of the carrier to hot-swap hard drives in servers or workstations.

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■ **Datawatch** announced Datawatch|BDS (Business Document Server) V7, the latest version of the company's enterprise document archive, management, access, and distribution software system. Datawatch|BDS V7 adds several powerful new features, including Transform & Transform Manager, eNotify, and Web Client Functionality. With Transform & Transform Manager, users can convert commonly used AFP and Metacode documents to text for data mining. eNotify turns the underlying document archive into an active distribution mechanism that provides secure distribution of documents and proof of delivery. Lastly, Web-client Functionality allows users to email documents, statements, invoices, and reports that are stored within the archive.

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■ **Fiber Connect** has announced the Replicator Kit Series, which supports high-density SAN switches from Cisco, Foundry Net, Brocade, and other companies. The products' Port Replicated Patch Panel includes LPM (Logical Port Management) for physical patching between the switch and related equipment. The LPM replicates port configurations at the point of the MDA. Each of Fiber Connect's Replicator Kits comes with the necessary trunks, MTP panels, and harnesses. The cables are available in custom lengths and are factory-preterminated. The new products include the 9513 Replicator Kit, which supports the 9513 Cisco Switch. Fiber Connect offers both multimode (62.5/125um, 50/125um, and 50/125um 10Gig) and single-mode configurations.

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■ **IBM** released its System Storage DS3300, an entry-level disk array designed to meet the storage needs of SMEs. The System Storage DS3300 is built on next-generation SAS back-end technology and features iSCSI and Fibre Channel interfaces. IBM's DS3000 management software and easy-to-use installation wizards assist inexperienced users with setting up and configuring the device. Users looking for more capacity can deploy the IBM System Storage EXP3000 Expansion Unit for up to 48 hard drives and 14.4TB capacity. The IBM System Storage DS3300 is available starting at $5,000.

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■ **Imation** introduced its Imation Odyssey removable hard drive cartridges, now available in 160GB capacities. Designed for SMEs, the Imation Odyssey cartridge consists of a USB-based external docking station and a 2.5-inch SATA hard drive. The Odyssey docking station is compatible with current 40, 80, 120, and 160GB capacity cartridges, as well as future higher-capacity cartridges. The device also ships with EMC Retrospect software for performing backup, encryption, and disaster recovery operations. The 160GB Imation Odyssey is currently available from $189 to $299.

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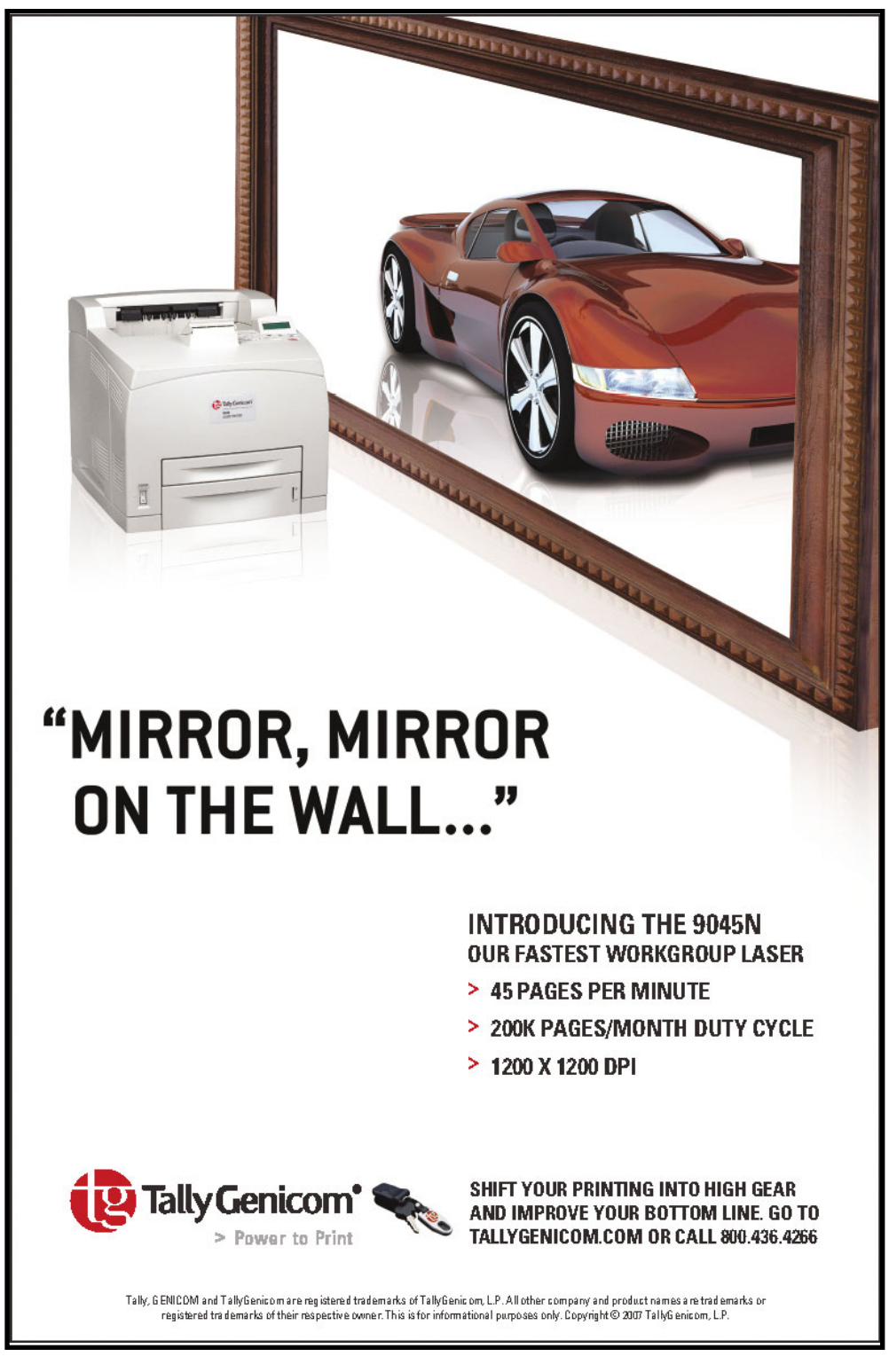
■ **Tripp Lite** has released a USB 2.0 SATA/IDE Combo Adapter (U238-000) for configuring hard drives without users having to perform an internal installation first. The U238-000 adapter will let a user individually or simultaneously connect SATA or IDE drives, thus turning the drives into an external USB 2.0 storage device. This ability lets users transfer data from a hard drive to auxiliary drives without installing them directly. Additionally, the U238-000 supports 2.5-, 3.5-, and 5.25-inch SATA and IDE devices and includes a SATA cable, a 2.5-/3.5-inch IDE converter, a 100 to 240V AC/DC adapter, and an HDD power cable. The product comes with a lifetime warranty.



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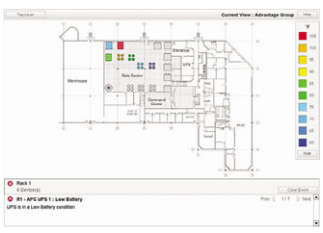

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RPC 14

8 Receptacle Power Control and Monitoring

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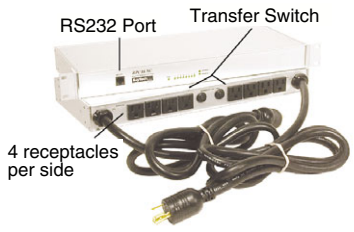

RPC18

8 Receptacle Power Control / Monitoring w/Trans Switch

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- Automatic Transfer Switch
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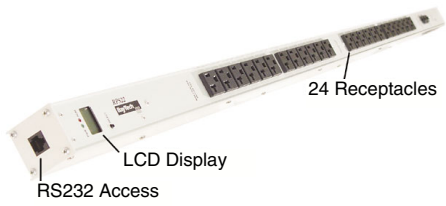

RPC 22

24 Receptacle Remote Power Monitoring & Distribution

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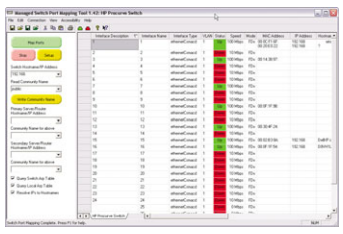

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Putting Trust In Storage

Do you trust your storage? You probably shouldn't. Oh, I don't mean you shouldn't believe in the reliability of your storage system. Modern digital storage systems incorporate advanced RAID and storage tiering that help prevent the loss or corruption of user data. Rather, you should question whether other people whom you don't trust can access the information on your storage.

Storage devices, like other IT hardware, have access controls, but if these access controls fail, the data on the storage devices can be read, copied, and even modified by others. Data loss can occur in mobile devices and storage networks, as well as with tapes and other movable media. It is just as important to protect backups and copies of data as to protect the original copy.

A company will experience significant costs associated with the loss or compromising of information on storage devices. Considering the significant financial, public relations, and business risks associated with unauthorized access to company information, what is being done to decrease these risks?

TOM COUGHLIN

AUTHOR *Tom Coughlin is the author of numerous authoritative reports on digital storage and its applications. He is also the founder and organizer of the annual Storage Visions Conference (www.storagevisions.com) and lead consultant for Coughlin Associates, which provides digital storage technical and market analysis and consulting services. Coughlin is a frequent writer and international speaker on digital storage and storage applications. You can find out more about him at www.tomcoughlin.com.*

Making Storage The Root Of Trust

Fortunately, there is an initiative that will increase the security of data on digital storage devices. The TCG (Trusted Computing Group; www.trustedcomputinggroup.org) is creating open specifications for storage device-based information security.

The Trusted Computing Group is a nonprofit industry standards organization that seeks to create means for securing information assets from being compromised by such events as alteration of data due to external software attack or loss of confidentiality due to misplaced assets or physical theft of assets.

The SWG (Storage Working Group) in TCG deals with specifications for security services within mass storage devices, such as hard drives, flash memory, optical drives, and digital tape drives. The recently released TCG Trusted Storage Specification defines access control using security features within the internal electronics of storage devices.

The basic idea behind the Trusted Storage Specification is to base security systems on hardware whose internal workings cannot be accessed or changed. A disk drive or other storage device can be a root of trust because once the device leaves the factory, no one has access to the storage device's firmware. Such a root of trust initiates a chain of trust that is the basis of a strong security system.

Hard drives have their own intelligent control and processing systems built into the printed circuit board. These boards include a processor and hidden user-addressable memory that can be partitioned into segments to provide exclusive security functions.

The users access the encrypted data using a password that enables the encryption key. Once this is done, the host equipment and software access the data on the drive. The host has no interaction with the encryption once the password enables access.

Starting On The Move

Onboard encrypted disk drives that meet the TCG specifications are being introduced into the laptop market. By 2008, we should see shipping laptops that incorporate encrypted disk drives. These products enable data security with password-accessible mobile storage. If someone doesn't know the password, he will not be able to turn on the key and access the data on the laptop disk drive.

Once successful deployment has been shown for laptops, this technology should migrate to other types of disk drives, such as those used in storage systems and desktop computers. Ultimately, we will see encrypted storage devices appear throughout the data center. There are already encrypted USB flash memory drives and external disk drives available, although these may not be fully compliant with the TCG specifications yet. Even optical drives and tape drives may ultimately be compliant with these specifications.

Another nice feature of a disk drive that contains the encryption key in a non-user-accessible region of storage is that if that key is overwritten, the drive data is inaccessible. It is encrypted and cannot be read without the key. This provides a very fast way to "erase" content and retire a storage device from its original use. The TCG specification calls for adding an enhanced secure-erase specification that overwrites the encryption key in a storage device. It is very comforting to know that disk drives that contained personal or private information are unreadable by folks who purchased them on eBay.

Trust In Your Future

The TCG specifications will be a great benefit to system administrators and users in years to come. Many traveling businesspeople will breathe easier knowing that their laptop information is unreadable if it falls into the wrong hands. As trust rooted in the internal security of storage devices becomes ubiquitous in IT, it will give all the stakeholders of corporate and organization information a secure basis for operation and meeting new legal requirements. P

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PRODUCTS AT WORK

Air-Conditioned Cabinets Make A Difference

Rackmount Solutions Helps Address Escalating Power Demands

by Drew Robb

• • •

AN EDUCATIONAL INSTITUTION situated in the eastern United States was experiencing trouble with its power infrastructure. In addition to having run out of capacity to upgrade the current UPS system in the main data center, further investigation into what would be required to upgrade the system revealed that the emergency power kill switch would need upgrading, as well. This then led to the discovery that insufficient power was feeding the building to support the upgrade, thereby necessitating electrical engineering input.

"Soon after, the customer was informed that the backup generator, as well as the current room system AC, would not meet capacity requirements, either. This project soon became the definition of scope-creep," says Buddy Davis, field sales manager at DNS (Data Network Solutions; www.dnscoinc.com) of Chapin, S.C.

The university contacted DNS to help resolve the situation. DNS provides technology solutions in the areas of network infrastructure, data storage, power, compliance, and security. It services a zone that includes the Carolinas, Virginia, and Georgia.

The Problem At Hand

The university's IT environment has more than 100 servers, various firewalls and security appliances, SAN and NAS arrays, tape systems, switching, routing, and traffic-shaping hardware. Platforms include rackmount and tower form-factor processors running Solaris (www.sun.com), Linux (www.linux.org), and Windows (www.microsoft.com). The main data center is cooled by redundant (yet very aged) systems independent of the building solution. Other aspects of the power infrastructure were suffering, too.

"Increasing the battery capacity of an internal UPS system had quickly become several hundred thousand dollars of infrastructure upgrades over a long period of time," says Davis.

This, however, was not the immediate impact that needed to be addressed. Because the existing UPS and AC were out of capacity, all current projects that would add equipment of any kind to the room were halted.

"Halting projects impacts operations quickly," says Davis. "We needed to find some way to keep projects moving forward."

An in-depth study of the customer facilities by DNS for additional space for power infrastructure only served to heighten the magnitude of the problem. According to Davis, the only space available was an oversized telecommunications closet with no air conditioning, no ventilation, and limited conditioned power.

An alternative had to be found—and quickly. DNS checked out a variety of products, but Davis found that most other cooled-rack solutions required hookup to the building's chilled water source. He thought both were good products, but neither appeared able to address the specific need of this customer. Chilled water was simply not an option for any available spaces where the customer had access.

Cabinets To Do The Trick

In the end, DNS and its university partner selected air-conditioned server cabinets by Rackmount Solutions (www.rackmountsolutions.net). That led to the purchase of two RS732036-ACRM10K units. These are basically 42U rack solutions with a 10K BTU cooling unit in the base. Inside dimensions are 73.5 x 19 x 36 inches (HxWxD).

"They were the only self-contained units that could be found that offered a plug-and-play cooled-rack solution," says Davis.

These cabinets are compatible with servers from the likes of Sun, Compaq (www.hp.com), Dell (www.dell.com), HP, IBM (www.ibm.com), and Intel (www.intel.com). They feature low-profile casters and leveling feet on every server rack. Removable side panels, a lockable front door, a vented steel rear door (with changeable airflow panels and a lockable swing door handle), and a solid top panel (with cover plates for cable management).

Davis characterizes implementation as "a breeze." Due to the plug-and-play functionality of the units, it took only a short time to install them and have them up and running.

"Once the racks were positioned in place and connected to the power source, it was only a matter of time for them to cool down before equipment could be positioned," says Davis.

Right away, DNS got into action, reorganizing the facility to take advantage of the old telecom closet in order to free up space elsewhere.

The End Result

"By implementing two environmentally controlled rack systems from Rackmount, we were able to transfer rackmounted servers from the data center to the telecom closet very quickly," says Davis. "This freed up capacity in the main data center."

In addition, it bought the university the time it needed to allow ongoing projects to continue moving forward. With time now available, DNS and the university could spend time working together to tackle the long-term design and planning obstacles that stood in the way of upgrading the main data center with better power and an improved air-conditioning capacity.

"The Rackmount solution allowed the end user to use space previously not considered suitable to house processing gear," says Davis. "As a result, other projects moved forward that otherwise would have had to be postponed or possibly cancelled in the face of a huge infrastructure challenge."

Looking back, has the product worked as planned? Davis states that the Rackmount cabinets have indeed worked out very well.

"The customer would love to load the rack from top to bottom with 1U servers," says Davis. "However, the university understands such a move would likely oversubscribe the current cooling units."

This highlights the only regret he states over the switch to rackmount—he wishes the facility could pile in more gear.

"The university is fearful that the capacity currently freed up at the main data center by relocating gear to these units will get taken quickly," says Davis. "However, as cost-effective as these units were, I think they would gladly deploy a few more in their environment should the need arise." P

Rackmount Solutions Air-Conditioned Server Cabinets

Server racks with a 10,000BTU cooling unit in the base

"The Rackmount solution allowed the end user to use space previously not considered suitable to house processing gear," says Buddy Davis, field sales manager at DNS (Data Network Solutions; www.dnscoinc.com) of Chapin, S.C. "As a result, other projects moved forward that otherwise would have had to be postponed or possibly cancelled in the face of a huge infrastructure challenge."

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The iPhone's Impact On Network Performance

How Can SME Administrators Handle The Complications?

by Sixto Ortiz Jr.

• • •

NOW THAT THE HYSTERIA over the Apple iPhone's launch is finally cooling off, network administrators have a new worry: the increasing number of iPhones that are starting to enter enterprises large and small. According to many industry watchers, iPhone usage is already impacting network and enterprise application performance. What are the experts saying about the iPhone's impact on network performance, and what are the possible ways administrators can cope?

iPhone: The Tale Of The Tape

A notable iPhone feature is its ability to use both a cellular and WLAN network for connectivity. The iPhone, which runs a version of Apple's OS X, automatically uses a WLAN to establish connectivity for Web browsing, if one is available. And therein lies one of the main problems that many industry watchers are fretting about: As iPhones make their way into enterprises, the devices will easily and happily connect to corporate WLANs.

Unlike other mobile devices, such as Treos or BlackBerrys, the iPhone sports a full-featured version of Apple's vaunted browser, Safari, so iPhone users connected to a WLAN or to AT&T's cellular network see a full-featured version of the Web, not the bare-bones WAP sites BlackBerry users get to see. And the iPhone features a YouTube player that lets users browse YouTube content and even email favorite clips to their friends.

So the problem is simple: iPhone users enjoy easy access to rich, bandwidth-hungry content whenever they use their devices for surfing the Web, hunting for videos, or downloading content. This will present unique problems for administrators managing the entry of these devices into their infrastructures.

Slim But Bandwidth-Hungry

Network administrators are understandably worried about the prospect of iPhone users using corporate WLANs to download YouTube videos and TV shows, surf the Web, etc. Zeus Kerravala, senior analyst at the Yankee Group, says because the iPhone is a dual-mode device, users are likely to use the wireless LAN for data functions when they are within corporate walls. Unlike other smartphones, he adds, which have very little network impact because most users don't do much with them beyond making telephone calls, the iPhone is tied to services such as iTunes, and its intuitive interface makes it so easy to use.

"The iPhone impact for many organizations," warns Kerravala, "will be moderate to severe because of users downloading music and videos, consuming as much of the WLAN bandwidth as they can get."

Exacerbating the problem is the fact that the majority of WLAN networks in enterprises are a shared 54Mbps collision domain, says David Messina, vice president of marketing for Xangati, a developer and provider of network management solutions. So wireless users who share a connection have much less bandwidth than desktop users who enjoy dedicated 100Mbps connections, he adds.

An iPhone, says Messina, will blur the line between a business PDA/mobile phone and a personal communications/entertainment device. So, he emphasizes, users will want to use the corporate WLAN network instead of the cellular service (AT&T's EDGE Network) to download large files such as MP3s or TV clips. Messina suggests a hypothetical but quite plausible scenario: A few iPhone users suddenly hog the lion's share of the wireless bandwidth at a business when they decide to download the latest episode of "Lost" to watch during the train ride home. The effect from just a few users downloading large files could be "horrific" on a WLAN network, as mission-critical applications potentially screech to a halt, VoIP over WLAN calls get dropped, etc., warns Messina.

Because the iPhone is a dual-mode device, users are likely to use the wireless LAN for data functions when they are within corporate walls.

Managing The iPhone

Network administrators who are losing sleep at the prospect of iPhones devouring precious bandwidth are naturally wondering what steps they can take to manage the influx of iPhones into their infrastructures. A draconian prohibition on iPhones will do more harm than good, but unrestrained access is not the answer either.

One of the main problems administrators must solve is detecting iPhone traffic. Unfortunately, says Messina, the problem in general for IT today is that pinpointing anything on a network is incredibly difficult. The reason for this, he adds, is that network and/or WLAN management tools don't focus on endpoints—such as the iPhone—but instead simply monitor network traffic in aggregate.

This, he adds, can cause problems from a troubleshooting/help desk perspective because the sudden download of large files by iPhone users, for example, will invariably cause network and application performance issues that trigger help desk calls. Unfortunately, he adds, IT help desk personnel and administrators will react to these calls without knowing that the root cause of the problem is the iPhone traffic. Again, this is due to the limitations of management tools that are incapable of pinpointing network traffic generated by a specific type of endpoint or application.

Establishing policies may be part of the answer, at least for educating and training users. The Yankee Group's Kerravala says a policy describing to users what they should and should not do with an iPhone won't solve any problems but will educate users. In many cases, he adds, most end users are not aware that what they are doing with their devices is harmful to the corporate network. A percentage of these users, he says, obey the policy once they learn about the possible consequences of actions such as downloading large files.

Another thing companies can do, says Kerravala, is deploy a management tool that can isolate unknown endpoints creating traffic patterns outside the norms of what an endpoint should do. Xangati's Messina also points out that administrators should get the right management solution that allows them to be aware of any adverse impact that an iPhone might be having on their infrastructure.

"To do that," Messina says, "what is required is a management solution that takes into account the application experience of each and every endpoint (anything with an IP address on the network; the iPhone is clearly an example of one)." The key is for administrators to be aware of the behavior of an iPhone and be able to detect abnormal patterns—such as the download of a very large file—as soon as they occur, he says.

Diligence Required

The iPhone is here to stay: The device is revolutionary in design and intuitive to use and has enough business-savvy features to make it justifiable for many enterprises as a legitimate business tool. As with so many other technologies preceding it, coping with the unique problems the iPhone brings to the table will require both extensive end-user education and sound technological solutions.

Network Management Solutions

Product	Web Site	Description
NetQoS Performance Center	www.netqos.com	A suite of network performance management applications composed of four key components: SuperAgent, ReporterAnalyzer, NetVoyant, and VoIP Monitor
NetScout nGenius	www.netscout.com	Uses both hardware probes and applications to recognize, discover, and monitor all business services and recreation applications used in a network
Xangati Rapid Problem Identification	www.xangati.com	Appliance-based approach that uses individual profiles for endpoints and applications to help administrators zero in on application- or endpoint-specific causes of network performance problems

Joining An Online Community

IT Workers Exchange Advice, Save Time On The Job

by Ericka Chickowski

• • •

A RECENT STUDY conducted by King Research on behalf of KACE found that the majority of systems management professionals rely heavily on online communities to help them solve IT problems. According to the study's findings, these resources give them a professional edge, shaving up to about three hours per week from their laundry list of to-do items.

"These communities clearly serve as an important resource to answer questions, share experiences, and communicate with peers who also wear many IT hats. Systems management professionals and the organizations they work for are seeing huge benefits from online communities both in the time saved for the individual or team and therefore money saved for their organizations, with potential for even greater benefits as new functionality is delivered to users," says Diane Hagglund of King Research.

The majority of systems management professionals rely heavily on online communities to help them solve IT problems, giving them a professional edge.

Hagglund's report indicates that most administrators hedge their bets; for any given problem, they'll visit more than one source of information for answers. Nevertheless, they generally have confidence in their colleagues in these communities—98% of those surveyed said they consider IT communities trustworthy.

The following sites are good examples of the types of well-respected communities that IT workers depend on to do their jobs.

Microsoft TechNet

As much as the Redmond-haters love to bash Microsoft, the company actually has for a long time tried to develop a collegial relationship with its power users to help them do their jobs. After all, the better they do their jobs, the more likely their bosses will be happy with Microsoft's product offerings and continue to sign off on those volume license agreements. Microsoft TechNet (www.technet.com) is the most visible manifestation of this work.

This site is home to one of the top general-purpose online communities for those running a Microsoft environment. The site as a whole seems to operate with three general purposes in mind. First, it is a vehicle for Microsoft to deliver product support downloads, prepared snippets of advice, and technical support, as well as company messaging around new products. Second, it is a place for Microsoft employees to look for product and support feedback and conduct meaningful dialogues with those willing to talk. Third, it is a place that facilitates discussions among Microsoft users so that they can work together to solve common problems.

Many administrators only know TechNet from the downloads and the occasional Microsoft-written articles. But the forums here are quite active. They are divided by product line, giving users an easy way to find and ask for answers about very specific technical questions dealing with products such as SQL Server, Office, and Windows.

Tech Republic

Tech Republic (www.techrepublic.com) is one of the longest-running and user-involved IT communities around. The site is owned by the CNET empire, but this conglomerate keeps a pretty hands-off approach, letting users sound off without heavy-handed moderation. It maintains that grassroots feel that seems to be a required ingredient for a successful IT community site. The user base is wide; members come from all walks of IT life. There are in-house developers, IT consultants, low-level admins, security experts, and even high-level executives.

The question-and-answer forum here is very newbie-friendly, with its fair share of veteran users willing to dispense advice to even the easiest of technical questions. Questions are typically answered in a timely fashion, and there are frequently debates as to the "right" way to attack a problem, giving the inquirer a good range of solution options to choose from. There is also a general discussion forum that frequently has lively debates on technical philosophies. This is also one of the better places on the Internet for IT pros to discuss career-oriented subjects such as training, leadership skills, and interacting with nontechies.

ITtoolbox

Unlike the previous two communities, ITtoolbox (www.ittoolbox.com) is not owned by any specific vendor or media interest that might have some hidden agenda. The site's No. 1 purpose is to link IT staff, middle-level managers, and executives to share technical and business advice. Though almost every community is based on Web 2.0 principles—namely, depending on user-created content through forums—ITtoolbox is a site that really embraces the whole Web 2.0 philosophy.

The forums here are the main attraction, but the site also enables users to create wiki entries and blogs. All three main areas of content are grouped together as specific "Knowledge Bases" by certain areas of expertise, such as "Developing in C Languages" or "Business Intelligence," so users can search the whole range of content by topic.

Also feeding into that Web 2.0 model is ITtoolbox's robust profile system. Users are encouraged to create profiles with a picture of themselves, relevant professional information, and more. They are also ranked by how often they contribute to the site. This allows information seekers to better judge the trustworthiness of a particular post based on who is giving it.

Bugtraq

Though Bugtraq is very specialized compared to the other groups listed here, it serves an important purpose to all IT administrators who are concerned about protecting their infrastructure. This long-running listserv is designed for techies to disclose security vulnerabilities to the community at large. Operated by Security Focus (www.securityfocus.com), the listserv contents are also posted on the Security Focus Web site. Symantec (www.symantec.com) actually owns the site, but it is a freely operating unit. Many security researchers with Symantec's competition frequently post to Bugtraq with zero intervention.

Even though the majority of posts are from vendor and independent researchers, as well as specialized security practitioners, Bugtraq has a loyal following of standard IT administrators. Searching the Bugtraq archives allows system and network staffers to isolate problems security breaches and vulnerabilities cause. And staying up on the messages keeps them up on the newest threats that crop up daily. P

Additional IT Communities

CHANNEL 9

channel9.msdn.com

This is MSDN's irreverent sibling. Microsoft posts tips and tricks via video here, and developers have a chance to sound off about their contents and contribute to wikis.

CODEGURU

www.codeguru.com

Programmers working in all languages and platforms flock to Codeguru to exchange information and collaborate.

EXPERTS-EXCHANGE

www.experts-exchange.com

Once a free site for IT administrators to exchange advice, Experts-Exchange is now pay-to-play. However, some loyal users swear by it. They claim the barrier to entry improves the quality level of its contributors.

LINUXQUESTIONS.ORG

www.linuxquestions.org

This is a free community designed to help members solve Linux-related issues.

MSDN FORUMS

www.msdn.com

This Microsoft-run site is meant to provide Microsoft developers with tools, articles, and forums to help them collaborate and solve programs related to application development.

TEK-TIPS

www.tek-tips.com

This free site is centered around question-and-answer exchanges.

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Data Centers Turning Green

SMEs Look To Improve Operational Efficiency As Power Use Grows

by Darrell Dunn

• • •

As issues related to data center heat have simmered and boiled over the past few years, an emphasis has been placed on improving operational efficiencies. A growing number of businesses are now considering specific green efforts in the design and operation of buildings and equipment.

The Current State

A recently published survey by Info-Tech Research Group indicates that while IT executives and data center managers are increasingly concerned about energy efficiency and environmental responsibility, few actually consider their current operations to be green. Motivation for improving efficiencies appeared tied directly to another form of green—the ability to improve the bottom line by cutting operational costs and minimizing the anticipated continued growth in utility rates.

"There is a misconception that going green is going to cost a lot of money," says Aaron Hay, an analyst with Info-Tech. "That is certainly not always the case. Going green is not so much spending a lot of extra capital as making an investment in your infrastructure by spending your money in the right way."

Improving data center efficiency is top-of-mind among government agencies, as well. A report published by the Environmental Protection Agency last month estimates that data centers in the United States could save up to $4 billion annually in electricity cost through the use of more energy-efficient equipment.

The EPA report found data centers in the United States consumed about 60 billion kilowatt-hours last year, which is about 1.5% of all electricity consumption in the country. More significantly, energy consumption in data centers has doubled in the past five years and is expected to double again in the next five years.

Existing technologies and strategies could reduce typical server energy use by a fourth, with even greater energy savings possible with advanced technologies, according to the EPA report. To encourage businesses to look at improving their energy footprint, the EPA has been conducting conferences across the country this year in association with technology industry organizations and state and local governments to raise awareness and get the opinions of data center experts on how best to attack the problem.

Changes Ahead

"IT has become like the oil industry was 25 years ago," says Rakesh Kumar, an analyst with Gartner. "The IT industry is getting this nasty reputation as an energy hog. If I was a CIO looking at investing millions in a data center with a life expectancy of 10 years or more, and I couldn't demonstrate that I'd put in at least some effort to include green elements in the design, I believe I would be seriously compromising my position."

The Info-Tech survey of about 700 IT executives found that more than half of all respondents are concerned about improving energy efficiency and environmental responsibility. But less than a third of the respondents consider their current operations green, and just as many respondents felt their operations were wasteful.

"People are just starting to realize that 30% or more of the cost of running a data center is in power," Hay says. "Reducing power consumption can significantly reduce the cost of the data center, which is what is driving most of the changes. Greater efficiency benefits the company in lower cost of operation and lets the IT professional be a green hero."

Getting a business to improve its green posture can take a lot of forms, depending on the specific goals of an initiative and the level of return expected on the green investment. To date, only a handful of companies have moved to seek full LEED (Leadership in Energy and Environmental Design) certification from the USGBC (U.S. Green Building Council) for their data center operations.

Companies gain LEED certification by obtaining points for implementation of specific green designs into a project. Those items include such things as providing premium parking for users of hybrid vehicles; encouraging telecommuting; using renewable energy sources, such as wind or solar power; and utilizing construction that has minimal impact on the natural landscape. The first thing most companies address, however, is energy efficiency, notes Kath Williams, a principle with architectural firm Kath Williams + Associates and a member of USGBC.

"You don't necessarily have to be a tree-hugger, but corporations want to step up and say they are green," Williams says. "A finger has been pointed at big data centers, and businesses don't want to waste resources and pay more for utilities. There is plenty of motivation."

Real-World Application

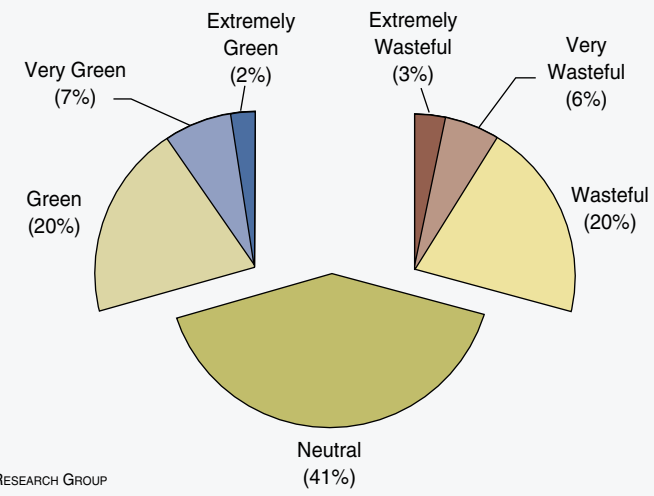
Advanced Micro Devices (www.amd.com) is seeking a LEED certification for its Lone Star Campus in Austin, Texas. The nearly million-square-foot complex is used primarily for microprocessor design engineers. The site incorporates objectives promoted by the Lady Bird Johnson Wildflower Center for conservation of native plants, with buildings and roads designed to minimize impact on landscape and water resources. One feature is a 1.1 million-gallon rainwater collection system.

Tom Cornelius, principle architect for the AMD project, believes the LEED effort may have added 5 to 6% in cost to the $200 million effort. "It's really difficult to say that we paid more in some respects," Cornelius says. "We would have already been looking to build the best we could for energy efficiency, but maybe we paid a bit of a premium for some things, like site selection, that could make the checklist."

Businesses of all sizes can incorporate high-efficiency data center design with immediate benefits that can be measured in reduced operational cost and the ability to extend the life of an existing data center footprint, says Peter Panfil, vice president of Liebert Power Engineering at Emerson Network Power (www.liebert.com), a leading provider of data center cooling and power equipment.

Most small to midsized enterprises don't know they have options to improve the efficiency of their data centers through such steps as the use of power-efficient and scalable UPS modules, intelligent monitoring, and specialized cooling equipment that can provide localized cooling of problem servers, Panfil says. "You don't have to buy it all at once," he notes. "I don't know that it's reach-a-crisis point, but power and cooling is definitely front-of-mind of everyone in the data center. You can add pieces to address the issue in an incremental and cost-effective manner that won't break the bank." P

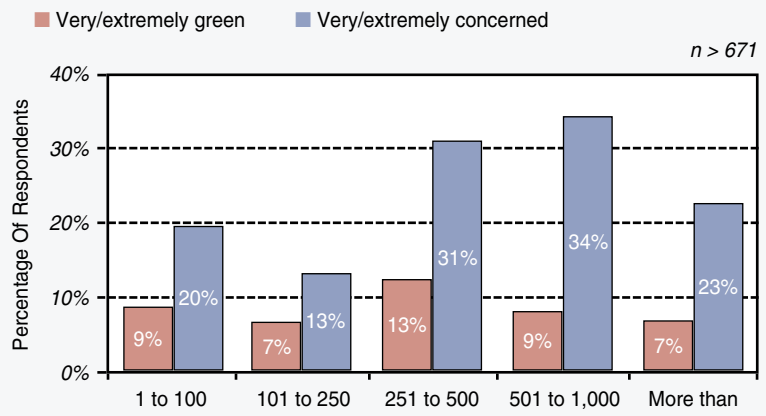
How Green Are Your Enterprise IT Operations?



Source: Info-Tech Research Group

Midsized Enterprises More Concerned & Greener

Enterprises with between 250 and 1,000 employees are showing more concern for green issues and more adoption of green technologies than those larger or smaller.



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WHAT'S HAPPENING

Cost-Effective & User-Friendly Network Emulation

Apposite Technologies' Tools Aim For High Precision & Ease Of Use

by Seth Colaner

• • •

ACCURATE AND TIMELY network emulation is crucial. Companies need emulators that can give them the right data; inaccurate tests, slow setup times, and large expenses can derail important testing.

Software emulators can be inexpensive solutions, but they are often difficult to set up and run; the operator must be completely knowledgeable, and even then, troubleshooting can be difficult, and setup can be time-consuming. More expensive dedicated emulation devices can be expensive, and their command line-only interfaces can be difficult to operate.

Apposite Solutions

According to DC Palter, president of Apposite Technologies (www.apposite-tech.com), the best solution for network emulation woes is a device that is easy to set up and use but is also accurate and reliable. Apposite's answer to the question is its line of Linktropy WAN emulators.

The first of the series is the Linktropy 4500, which was released late in 2005. Its features include WAN bandwidths up to 155MBps and up to 250,000 packets per second with a Gigabit Ethernet interface. While still a useful solution, customers needed more. Palter says, "We had people saying, 'We need higher speeds than 155MBps.'" Although some of those customers didn't need anything more at the time, they were afraid they would need more bandwidth, such as 1GBps, in the near future.

The answer Apposite came up with is the Linktropy 7500 and 7500 PRO. The 7500 has a bandwidth of up to 1GBps and 3 million packets per second. The 7500 PRO, designed for larger companies that may have multiple tests running simultaneously, has four links instead of one. Combined, they can handle up to 4GBps and 3 million packets per second. According to Palter, it's like having four Linktropy 7500s all in one unit.

Statistics aside, the Linktropy series is designed to differentiate itself from the competition based on its ease of use and relatively low price. "We've come at it from the point of view, I think, a little bit opposite the way other companies have done," says Palter. "We want to make an easy-to-use product. That means we won't have all the features that some customers want or may even need, but for the vast majority of customers, we're going to keep it really easy to use." Simply put, the bells and whistles may not be as plentiful, but the features that most customers will need will not only be present in the Linktropy series but easy to work with.

Filling The Gap

The Linktropy series is more reliable and precise than its software-based rivals, yet it may not have as many features as more expensive dedicated emulation devices. For example, the Linktropy series does not make use of ASICs.

Palter points out that while high-volume ASICs were relatively inexpensive, low-volume ASICs could be prohibitively expensive because of how much time goes into developing them, as well as their stiffer production costs. Apposite found that it was significantly less expensive to use off-the-shelf hardware platforms, although that produces a slight reduction in precision. Palter assents to the fact that ASICs offer a higher level of precision, which is necessary for hardware testing, but also points out, "For our customer base, which is people who are testing applications, we are well within the precision that they could notice in their testing."

This also holds true for customers who need to use a traffic generator for testing. The Linktropy devices are not designed specifically for such testing, although they do come loaded with simulations with alterable parameters that can generate "fake" traffic, so some customers may not need a dedicated traffic generator at all. Still, Apposite recognizes both the need for traffic generators for some testing, as well as the possibility for synergy between this technology and its products, so it is seeking to develop relationships with traffic generator operators.

Palter doesn't see the absence of ASICs and traffic generators as a problem. He points out that the feature set of Apposite's products is purposefully limited; this enables the Linktropy devices to be operable through a browser-based GUI interface.

"The product is straightforward, intuitive, [and] ready to go out of the box, [with] no training needed. We have nice documentation, but you don't need to read it because everything you need to know is pretty much right there in front of you," notes Palter.

With too many features, the GUI would become bloated and difficult to use, defeating the purpose of having one in the first place. Loaded with just the features that the vast majority of customers need, the GUI interface becomes easy to learn, set up, and use.

Whatever the options a device offers, for many customers, price is the bottom line. This is another area where Apposite takes pride. The list price for the Linktropy 4500 (with 512KBps of bandwidth) is $2,500; the largest and fastest 7500 PRO model is $20,000. Prices for similar device capability from other companies, according to Palter, can be as high as $50,000 to $100,000.

The bottom line for Palter is simple: "We have a product that is precise and trustworthy but is also easy to use and reasonably priced," he says. "I think we are very unique in that."

What's Next?

As with all technology, network emulation is constantly changing and evolving. Apposite Technologies is doing its best to remain on the cutting edge. As such, the software in the Linktropy devices is updateable, and the capacity for 4GBps of bandwidth on a single device is definitely forward-looking. Apposite hopes it has established a powerful and necessary niche in the network emulator market. P

THREE QUESTIONS

A Broad Selection Of Control Room Furniture

Winsted Offers Stock, Custom & Semi-custom Units

by Julie Ritzer Ross

FOUNDED IN 1963, Winsted (www.winsted.com) features a wide variety of standard rack cabinets, consoles, command centers, data room equipment, and tape/media storage cabinets. Both Steve Hoska, CEO, and Randy Smith, president, have seen numerous changes in the furniture market in their long tenures with the company.

"Furniture design has evolved; there's a lot more emphasis on ergonomics now because control rooms today are staffed 24 hours a day, seven days a week," says Smith. "Products must not only be more comfortable to allow for efficiency of operations; they need to be heavy-duty to withstand being used 'round-the-clock."

Processor spoke with Smith and Hoska about the issues small to midsized enterprises encounter when designing control rooms, as well as about the challenges posed by technology itself and what differentiates Winsted from its competitors.

■ What are the biggest IT-related challenges facing today's small to midsized enterprise?

Designing control room furniture configurations is just as significant a challenge for SMEs as selecting hardware and software, according to Hoska. Furniture must be installed to allow for optimal wire management, equipment maintenance, and cooling, he says, noting that IT managers need "easy access to and control of their electronics—i.e., computers, NVRs, and blade servers" in order for hardware and software to operate in a smooth, productive manner.

As for actual IT challenges, Hoska ranks software design and upgrades, grappling with viruses, networking computers together, and "extrapolating information for productive enterprises in today's fast-paced world" at the top of the list.

■ What should *Processor* readers know about your company's products?

"Winsted offers the largest selection of racks, consoles, and custom-manufactured workstations in the industry, but it's not about our products; it's about what the customer desires and needs," says Hoska. "We provide IT products to their specifications with in-stock, ready-to-ship consoles and racks, customized adaptations, or full custom manufacturing."

Expanded product lines, adds Smith, include Prestige Series Slim-Line consoles, LCD and plasma mounts, and the Pro Series II line of accessories. New product introductions include a line of multifunctional digital desks, Pro Series II DVRacks, and a dual cabinet graphics desk with LCD mounts.

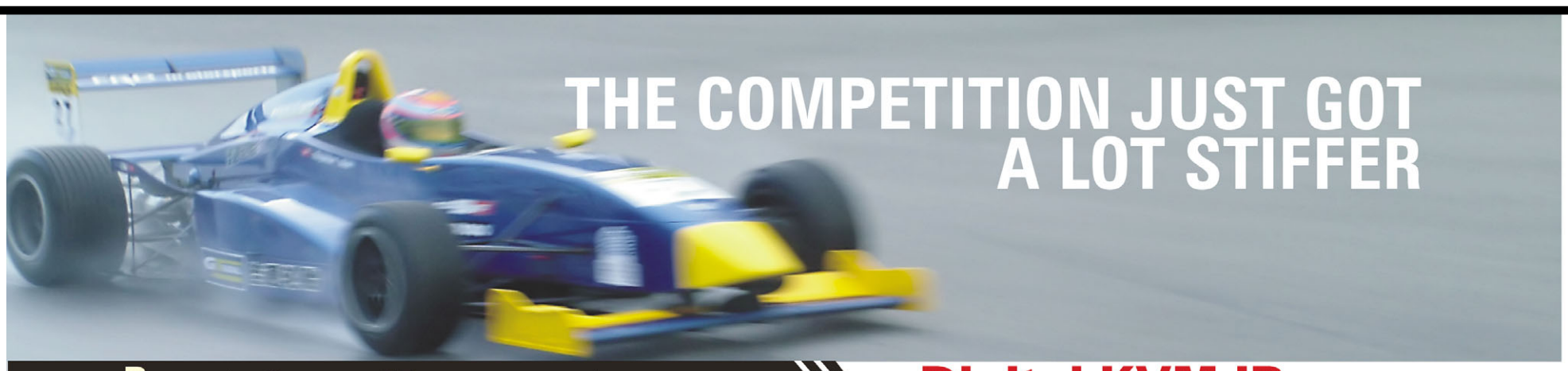
Winsted's racks and consoles are modular, which, explains Smith, allow for economical expansion and revision of existing systems. A full array of accessories is available for each product line. All products are backed by a 10-year warranty, and in-stock items ship within 24 hours.

■ What makes your company unique?

Winsted is the only company in its market to offer "semi-custom" furniture for this market, says Smith. "Our competitors do strictly stock and/or custom, but we're more flexible than that on the product development side," he says. "We can take a stock console and make a customized panel to sit adjacent to LCDs for gate control or access control. Or we can customize a stock peninsula to sit between two operators in a control room."

Winsted also works hand-in-hand with its customers on control room design. "It's not unusual for us to sit down with them, look at a set of blueprints for the control room, and generate an AutoCAD drawing of a furniture configuration based on the equipment they're going to house," Smith says.

He adds that "while we're always willing to help on the design side, we do cater to customers who want to create their own room layouts by offering a solution called WELS, which stands for Winsted Equipment Layout Software." The software, which users may download from the company's Web site, enables them to search through Winsted's entire inventory of stock components, as well as some custom components, to put together consoles and drop them into room layouts.



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RackView™
15", 17", 19", 20" LCD flat panels Fold forward & backward designs

- Built-in single or multiple user KVM switch options
- Supports AT/XT, PS/2 and Unix computers
- DVI and S-video options available on 19" and larger LCD
- LCD flat panel and keyboard can be sold separately
- Available with full size, full function Sun keyboard
- Optional multi-media version with TV tuner & stereo speakers

RackView™ Panel Mount LCD
Mounts vertically in a standard 19" rack

- Available with a 15",17", 19", 20", or 23" LCD
- 19" and 20" models support DVI and VGA inputs
- Resolution up to 1280 x 1024
- Fits in 7 – 9 rack units (Depending on model)
- DVI and S-video options available on 19" or larger LCD
- Quick and easy rack mounting installation

VideoSplitter™ CAT5
Distribute, amplify & extend video to 6 or 12 monitors

- Video resolutions up to 1600 x 1200
- Each remote monitor can be up to 1,000'
- Optional Audio and Serial
- Easy to install
- Rack mountable chassis

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